749 BOUSH STREET FLOOD MITIGATION

TYMOFF + MOSS ARCHITECTS
512 BOTETOURT STREET
NORFOLK, VA 23510
CONTACT: SUZY STELMASZEK, 757 627 0013

ROACH CONSULTING ENGINEERS
PLUMBING, MECHANICAL + ELECTRICAL
201 COLLEGE PLACE
NORFOLK, VA 23510
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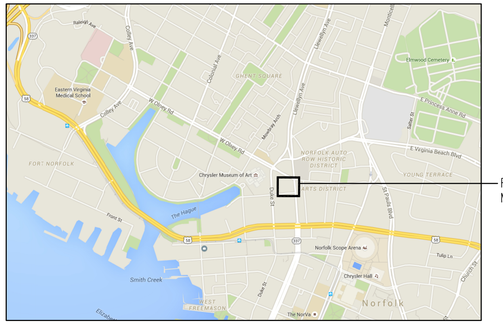
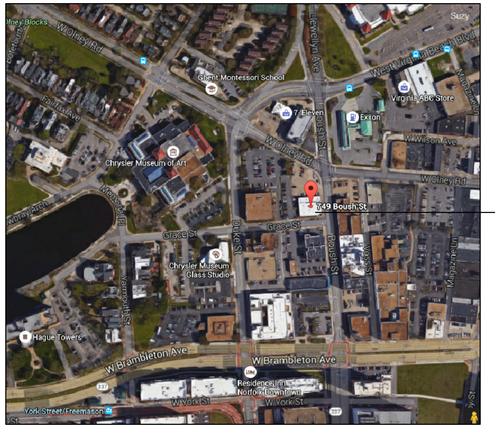
ABC CONSULTING, INC.
STRUCTURAL
2715 MONTICELLO AVENUE
NORFOLK, VA 23517
CONTACT: FADI DEBBAS, 757 499 1333

VICINITY MAP



REFER TO LOCATION MAP BELOW

LOCATION MAP



749 BOUSH ST.

SUMMARY OF WORK

THIS PROJECT CONSISTS OF A NEW CONCRETE FLOOD PROOF WALL AND NEW FOOTINGS AROUND THE ENTIRE PERIMETER OF THE EXISTING BUILDING LOCATED AT 749 BOUSH STREET IN NORFOLK, VIRGINIA. ASSOCIATED WORK INCLUDES INSTALLATION OF NEW WINDOWS, INFILL OF EXISTING EXTERIOR DOOR, AND REPLACEMENT OF INTERIOR FINISHES AS REQUIRED THROUGHOUT.

CODE REFERENCES

2012 EXISTING BUILDING CODE IEBC
ANSI 2003
NFPA 13 2007
NFPA 72 2007
INTERNATIONAL PLUMBING CODE- 2006 EDITION
INTERNATIONAL MECHANICAL CODE- 2006 EDITION
NFPA 70, NATIONAL ELECTRICAL CODE- 2005 EDITION

CODE DATA

BUILDING CLASSIFICATION	B BUSINESS TYPE 5B CONSTRUCTION: UNPROTECTED COMBUSTIBLE
ALLOWABLE AREA	9,000 GSF
ACTUAL AREA	7,000 GSF
OCCUPANCY	BUSINESS USE GROUP 7,000 GSF/100 SF PER PERSON= 70 PEOPLE TOTAL OCCUPANCY= 70

PLUMBING FIXTURES REMAIN THE SAME.

ABBREVIATIONS

ACM	ASBESTOS CONTAINING MATERIAL	MAX	MAXIMUM
AFF	ABOVE FINISH FLOOR	MECH	MECHANICAL
ADJ	ADJACENT	MIN	MINIMUM
ALUM	ALUMINUM	MTL	METAL
APPROX	APROXIMATELY	NIC	NOT IN CONTRACT
ATS	ALUMINUM TRANSITION STRIP	OC	ON CENTER
@	AT	PT	PRESSURE TREATED
BLDG	BUILDING	PTD	PAINTED
CT	CERAMIC TILE	PLAM	PLASTIC LAMINATE
CMU	CONCRETE MASONRY UNIT	SIM	SIMILAR
CJ	CONTROL JOINT	S	SHELVES
℄	CENTER LINE	SS	STAINLESS STEEL
COMM	COMMUNICATIONS	S&R	SHELF & ROD
CONC	CONCRETE	SPM	SINGLE PLY MEMBRANE
CPT	CARPET	SV	STATIC ROOF VENT
DIA	DIAMETER	TLT	TOILET
EQ	EQUAL	TOS	TOP OF STEEL
EA	EACH	TYP	TYPICAL
EJ	EXPANSION JOINT	VCT	VINYL COMPOSITION TILE
EQUIP	EQUIPMENT	W/	WITH
EXT	EXTERIOR	WD	WOOD
FLR	FLOOR	VA	VIRGINIA
FIN FLR	FINISH FLOOR	VERT	VERTICAL, VERTICALLY
GALV	GALVANIZED	VIF	VERIFY IN FIELD
GWB	GYPSUM WALL BOARD	VTS	VINYL TRANSITION STRIP
HM	HOLLOW METAL	VTR	VENT THRU ROOF
HVAC	HEATING, VENTILATING, AIR CONDITIONING		
INSUL	INSULATION, INSULATED		

GENERAL NOTES

1. THE ARCHITECTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO ITEMS TO BE PLACED OR SET IN THE ARCHITECTURAL WORK.

2. BEFORE PROCEEDING WITH WORK, THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE EXISTING CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS AND OTHER REQUIREMENTS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK TO THE EXISTING. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES AT THIS TIME.

3. THE PROJECT SPECIFICATIONS ARE NOT SUPERSEDED BY THE ARCHITECTURAL NOTES BUT ARE INTENDED TO BE COMPLEMENTARY TO THEM. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS IN EACH SECTION.

4. CONSULTANTS' DRAWINGS ARE CONSIDERED SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. ANY OMISSIONS OR CONFLICTS, INCLUDING DIMENSIONS, BETWEEN VARIOUS ELEMENTS OF THE CONSULTANTS' DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

5. GENERAL CONTRACTOR SHALL SUBMIT CONSTRUCTION SEQUENCING PLAN TO OWNER AND ARCHITECT FOR REVIEW.

6. BEFORE YOU DIG CALL MISS UTILITY – 811.

INDEX OF DRAWINGS

TYMOFF + MOSS ARCHITECTS
512 BOTETOURT STREET
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COMMONWEALTH OF VIRGINIA
MICHAEL SCHNEIDER
Lic No. 0401014689
ARCHITECT

BID SET

ISSUE

2015 NOV 25

T1.1
CODE DATA

749 BOUSH STREET
FLOOD MITIGATION

ARCHITECTURAL SPECIFICATIONS

DIVISION 1-GENERAL REQUIREMENTS

SEE ATTACHMENT.

DIVISION 2-SITE CONSTRUCTION

SEE ATTACHMENT.

DIVISION 3-CONCRETE

SEE STRUCTURAL.

DIVISION 4-MASONRY

SEE STRUCTURAL.

DIVISION 5-METALS

5.1 METAL FLASHING

A. WHERE INDICATED ON THE DRAWINGS, PROVIDE .060" ALUMINUM WELDED PAN FLASHING.

5.2 ALUMINUM COMPOSITE SUMP PIT COVER

A. WHERE INDICATED ON THE DRAWINGS, PROVIDE 2'X2' ALUMINUM COMPOSITE SUMP PIT COVER TO WITHSTAND 100 POUNDS PER SQUARE FOOT. PROVIDE FOLDING LATCH FOR QUICK REMOVAL.

DIVISION 6-WOOD, PLASTICS AND COMPOSITES

6.1 FIBERGLASS FABRICATIONS (FRP)

A. GENERAL

1. FURNISH ALL MATERIALS, LABOR, EQUIPMENT AND SERVICES NECESSARY FOR THE SUPPLY AND INSTALLATION OF PLASTERFORM FRP COMPONENTS AS INDICATED ON THE DRAWINGS AND CONTRACT DOCUMENTS, ALL IN COMPLIANCE WITH LOCAL CODES AND ORDINANCES.
2. WORK SHALL INCLUDE SUPPLY OF FRP COMPONENTS, INSTALLATION AND JOINT TREATMENT.
3. SUBMIT A MIN. OF (3) 8"X8" PLASTERFORM FRP SAMPLES ILLUSTRATING COLOR, TEXTURE AND FINISH.
4. SUBMIT SHOP DRAWINGS FOR APPROVAL SHOWING PLANS, SECTIONS, DETAILS, JOINT TREATMENT, REINFORCING, FASTENING DEVICES AND RELATION OF THE FRP COMPONENTS TO THE SURROUNDING CONSTRUCTION.
5. CONTRACTORS DESIRING TO SUBMIT PROPOSALS OTHER THAN PLASTERFORM SHALL, AT LEAST TEN DAYS PRIOR TO THE BID DATE, SUBMIT TO THE ARCHITECT ALL DESCRIPTIVE INFORMATION OF THE SYSTEM. THESE MANUFACTURERS MUST HAVE AT LEAST FIVE YEARS OF EXPERIENCE IN ARCHITECTURAL FIBERGLASS REINFORCED FABRICATIONS.

B. PRODUCTS

1. FRP AS MANUFACTURED BY PLASTERFORM. 905-891-9500. ALL MATERIAL SHALL BE CLAS 1 FIRE RATED. GELCOAT 18 MILS UV RESISTANT. E GLASS FIBER WITH 20-32% GLASS CONTENT. LAMINATE THICKNESS NOMINAL $\frac{1}{8}$ INCHES. SIMULATED STONE FINISH, IN TWO TEXTURES. REFER TO PLASTERFORM FOR FABRICATION TOLERANCES AND PHYSICAL PROPERTIES.

C. EXECUTION

1. PRE-INSTALLATION RESPONSIBILITY
   a. PRIOR TO MANUFACTURING, THE INSTALLER WILL BE RESPONSIBLE FOR OBTAINING ALL FIELD DIMENSIONS FOR INCLUSION ON THE SHOP DRAWINGS.
   b. THE INSTALLER WILL BE RESPONSIBLE FOR THE CO-ORDINATION OF THE INSTALLATION WITH RELATED SECTIONS, WITHIN THE TOLERANCES SPECIFIED IN THE RESPECTIVE ARTICLES.
   c. PRIOR TO INSTALLATION, THE INSTALLER SHALL CHECK JOB SITE DIMENSIONS AND CONDITIONS. ANY DISCREPANCIES BETWEEN DESIGN AND FIELD DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR AND ARCHITECT.
2. DELIVERY, STORAGE, HANDLING AND PROTECTION
   a. TRANSPORT AND HANDLE UNITS IN A MANNER THAT AVOIDS EXCESSIVE STRESSES OR DAMAGE.
   b. COMPONENTS DISPLAYING OBVIOUS DAMAGE MUST BE REJECTED AT THE SITE AT TIME OF DELIVERY.
   c. STORE COMPONENTS IN A CONTROLLED ENVIRONMENT WEATHER PROTECTED ON LEVEL SURFACES AND WITH TEMPORARY SUPPORTS AS REQUIRED. DO NOT STACK OR LEAN.
3. INSTALLATION, CLEANING AND WARRANTY
   a. COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS, APPROVED SHOP DRAWINGS AND MANUFACTURER'S INSTRUCTIONS.
   b. CLEAN COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CLEAN SOILED FRP UNITS WITH MILD DETERGENT AND CLEAN WATER USING A SOFT CLOTH. RINSE THOROUGHLY WITH CLEAN WATER.
   c. PROVIDE ONE YEAR WARRANTY FROM SUBSTANTIAL COMPLETION.

6.2 WOOD SILL

A. PROVIDE PAINTED POPLAR WOOD SILL AT ALL NEW WINDOW AND STOREFRONT SILLS. PROFILE SHALL MATCH EXISTING.

6.3 WOOD BLOCKING

A. PROVIDE 2X WOOD BLOCKING AS REQUIRED AND WHERE INDICATED ON THE DRAWINGS. WOOD BLOCKING SHALL BE PRESSURE TREATED WHERE IN CONTACT WITH CONCRETE OR CMU.

DIVISION 7-THERMAL AND MOISTURE PROTECTION

7.1 CONDUCTOR HEADS AND DOWNSPOUTS

A. CONDUCTOR HEADS: PROVIDE 13"x11.75"x6"D PAINTED STEEL CONDUCTOR HEADS WHERE SHOWN ON THE DRAWINGS. 24 GA. .024 THICK WITH 5" SQUARE OUTLET. PAINT COLOR TO BE SELECTED BY ARCHITECT.
B. DOWNSPOUTS: PROVIDE 4"X5" SQUARE PAINTED STEEL DOWNSPOUTS WHERE SHOWN ON THE DRAWINGS. 24 GA., .024 THICK. PAINT COLOR TO BE SELECTED BY ARCHITECT.
C. PROVIDE ALL ELBOWS, MOUNTING BRACKETS AND ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.

7.2 EXPANDING CONCRETE JOINT WATERSTOP

A. WHERE INDICATED ON THE DRAWINGS, PROVIDE EXPANDING CONCRETE JOINT "WATERSTOP RX" AS MANUFACTURED BY CETCO. PROVIDE MIN. 3" COVERAGE.

7.3 WATERPROOFIING MEMBRANE AND PROTECTION FABRIC

A. WHERE INDICATED ON THE DRAWINGS, PROVIDE HENRY CM 100 COLD FLUID-APPLIED HIGH BUILDING WATERPROOFING. MANUFACTURED BY HENRY COMPANY. 800-523-0268.

B. PROVIDE PROTECTION FABRIC REINFORCEMENT IN ALL LOCATIONS WHERE LIQUID APPLIED MEMBRANE IS APPLIED. MANUFACTURED BY HENRY COMPANY, 800-523-0268. MIN. THICKNESS 8 MILS.

C. PROVIDE MANUFACTURER'S STANDARD WARRANTY.

7.4 BENTONITE WATERPROOFING

A. WHERE INDICATED ON THE DRAWINGS, PROVIDE 60 MIL. VOLETEX DS BENTONITE GEOTEXTILE WATERPROOFING MEMBRANE WITH INTEGRATED POLYETHYLENE LINER AS MANUFACTURED BY CETCO, 800-527-9948.

7.5 JOINT SEALANTS

A. MATERIALS, GENERAL

1. COMPATIBILITY: PROVIDE JOINT SEALANTS, BACKINGS AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY JOINT-SEALANT MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.

2. LIQUID APPLIED JOINT SEALANTS: COMPLY WITH ASTM C 920 AND OTHER REQUIREMENTS INDICATED FOR EACH LIQUID APPLIED JOINT SEALANT SPECIFIED, INCLUDING THOSE REFERENCING ASTM C 920 CLASSIFICATIONSFOR TYPE, GRADE, CLASS, AND USES RELATED TO EXPOSURE AND JOINT SUBSTRATES.

3. COLORS OF EXPOSED JOINT SEALANTS: AS INDICATED BY MANUFACTURER'S DESIGNATIONS AND AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

B. PRODUCTS

1. SILICONE JOINT SEALANTS
   a. SINGLE COMPONENT, NONSAG, NEUTRAL-CURING SILICONE JOINT SEALANT: ASTM C 920 TYPE S, GRADE NS, CLASS 50, FOR USE NT.
   b. MILDEW-RESISTANT, SINGLE COMPONENT, NONSAG, NEUTRAL-CURING SILICONE JOINT SEALANT, ASTM C 920, TYPE S, GRADE NS, CLASS 25, FOR USE NT.
2. URETHANE JOINT SEALANTS
   a. SINGLE COMPONENT, NONSAG, TRAFFIC-GRADE, URETHANE JOINT SEALANT: ASTM C 920, TYPE S, GRADE NS, CLASS 23, FOR USE T.
3. ACOUSTICAL JOINT SEALANT
   a. MANUFACTURER'S STANDARD NONSAG, PAINTABLE, NONSTAINING LATEX SEALANT COMPLYING WITH ASTM C 834. PRODUCT EFFECTIVELY REDUCES AIRBORNE SOUND TRANSMISSION THROUGH PERIMETER JOINTS AND OPENINGS IN BUILDING CONSTRUCTION AS DEMONSTRATED BY TESTING REPRESENTATIVE ASSEMBLIES ACCORDING TO ASTM E 90.
4. JOINT SEALANT BACKING
   a. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING, ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS, AND ARE APPROVED FOR APPLICATIONS INDICATED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING.

7.6 WEEPS

A. PROVIDE 4" POLYPROPELENE CELL VENT WEEPS WHERE SHOWN ON THE DRAWINGS. PROVIDE MANUFACTURER'S FULL RANGE OF COLORS TO ARCHITECT FOR SELECTION.

DIVISION 8-OPENINGS

8.1 STOREFRONT

A. PROVIDE KAWNEER TRIFAB THERMAL VG 451T, FRONT GLAZED. WITH PAINTED FINISH TO BE SELECTED FOR EXTERIOR APPLICATIONS.
B. PROVIDE KAWNEER TRIFAB NON-THERMAL VG 451T, FRONT GLAZED. WITH PAINTED FINISH TO BE SELECTED FOR INTERIOR APPLICATIONS.
B. PROVIDE 20 YEAR WARRANTY ON FINISH AND 5 YEAR ASSEMBLY WARRANTY.
C. PROVIDE WIDE STILE ALUMINIUM DOORS. G.C. COORDINATE FRAME STYLE WITH DOOR HARDWARE.

8.2 GLAZING

A. PROVIDE 1", LOW E, LAMINATED, SOLARBAN 60, INSULATED GLAZING UNLESS OTHERWISE NOTED. LAMINATED GLAZING SHALL HAVE LAMINTAION BETWEEN FACE #2 AND FACE #3, AND LOW-E COATING ON FACE #5.
B. PROVIDE $\frac{1}{4}$" TEMPERED GLAZING FOR ALUMINUM DOOR AND INTERIOR STOREFRONT.
C. PROVIDE 10 YEAR WARRANTY FOR GLAZING DEFECTS.

8.3 DOOR HARDWARE

A. ALL HARDWARE SHALL HAVE BRUSHED SATIN CHROME FINISH. ALL INTERIOR HARDWARE TO BE HEAVY DUTY COMMERCIAL GRADE CYLINDRICAL LOCKSETS BY BEST, WITH SATIN CHROME FINISH. ALL DOORS SHALL BE PRE-MACHINED FOR HARDWARE.

B. INSTALLER'S QUALIFICATIONS: FIRM WITH 3 YEARS EXPERIENCE IN INSTALLATION OF SIMILAR HARDWARE TO THAT REQUIRED FOR THIS PROJECT, INCLUDING SPECIFIC REQUIREMENTS INDICATED.

C. KEYS AND KEYING:
   1. HARDWARE CONSULTANT TO COORDINATE FINAL KEYING WITH OWNER.

D. WARRANTY:
   1. MANUFACTURER'S WARRANTY
   2. CLOSERS: TEN YEARS
   3. EXIT DEVICES: THREE YEARS
   4. LOCKSETS AND CYLINDERS: THREE YEARS
   5. ALL OTHER HARDWARE: TWO YEARS

E. HARDWARE SCHEDULE:

DOORS 100 AND 103:

1. CONTINUOUS HINGE 662HD STANLEY
2. EXIT DEVICE 2401 CD 630 PRECISION
3. RIM CYLINDER 1E-72 PREM 626 BEST
4. MORTISE CYLINDER 1E-74 PREM 626 BEST
5. OFFSET PULL 1191-3 630 TRIMCO
6. CLOSER PR4400 689 YALE
7. DROP PLATE 488 689 YALE
8. BRACKET 890 689 YALE
9. DOOR STOP 1214 626 TRIMCO
10. SADDLE THRESHOLD 424 1/4-20 SSMS/LA AL NATIONAL
11. DOOR SWEEP 200 NATIONAL

DOORS 101 AND 102:

1. CONTINUOUS HINGE A270HDC ABH MANUFACTURING
2. PUSH/PULL SET 1738 36" 630 TRIMCO
3. DOOR CLOSER CLD-4550 EDA P45HD-112 689 STANLEY
4. DOOR STOP 1270 WV/1211 AS REQ'D. 630 TRIMCO

8.3 FLOOD BARRIER

A. GENERAL:

1. WHERE INDICATED ON THE DRAWINGS, PROVIDE AND INSTALL CG3S WATERTIGHT BARRIER AS MANUFACTURED BY PRESRAY CORPORATION. 845-373-9300.
2. SUBMIT INSTALLATION AND MAINTENANCE INSTRUCTIONS FOR FLOOD BARRIERS.
3. SUBMIT SHOP DRAWINGS FOR FLOOD BARRIERS INCLUDING DIMENSIONED PLANS AND ELEVATIONS, SECTIONS, CONNECTIONS AND ANCHORAGE, AND PARTS LIST.
4. SUBMIT CALCULATIONS, APPROVED BY A QUALIFIED ENGINEER, TO VERIFY THE BARRIER'S ABILITY TO WITHSTAND THE DESIGN PRESSURE LOADING.

B. PRODUCTS:

1. PANEL SHALL BE 6061 T6 ALUMINUM PLATE.
2. CONVERSION FRAME AND TRACK SHALL BE LOW CARBON STEEL.
3. PANEL FINISH SHALL BE BRIGHT ALUMINUM. CONVERSION FRAME SHALL BE BRUSH-OFF BLAST CLEAN PER SSPC-SP7, PRIMED WITH ONE COAT RUST INHIBITIVE, LEAD FREE, RED PRIMER.
3. DOOR GASKET SHALL BE PRESPRAY TYPE 25 DUROMETER NEOPRENE, MOLDED WITH FULLY MOLDED CORNERS, NO MITERED JOINTS ALLOWED.
4. HARDWARE: SHROUDS SHALL BE HINGED 6061 ALUMINUM. COMPRESSION HANDLES SHALL BE STAINLESS STEEL ROLLERS AND INCLUDE PROVISIONS FOR ADJUSTING SEAL COMPRESSION AFTER INSTALLATION.
5. WATERTIGHT BARRIER SHALL BE DESIGNED WITH APPLICABLE SAFETY FACTORS IN ACCORDANCE WITH AISC SPECIFICATIONS, AND SHALL PROVIDE AN EFFECTIVE SEAL AGAINST THE DESIGN PRESSURE.
6. THE DESIGN OF THE DOOR SHALL ALLOW THE PRESSURE ON THE DOOR TO BE TRANSMITTED TO THE FRAME AND/OR DOGS.
7. FRAME SHALL INCLUDE SUITABLE ANCHORS FOR EMBEDMENT IN CONCRETE.
8. THE COMAING EDGE CONTACTING THE DOOR GASKET SHALL BE MACHINED, RATHER THAN AS ROLLED, TO MAXIMIZE SEALING.
9. ALL STEEL MATERIAL WELDS IN THE POTENTIAL "LEAK PATH" SHALL BE LIQUID PENETRANT INSPECTED IN ACCORDANCE WITH ASME CODE OF SECTION VIII DIV. 1 OF APPENDIX 8.
10. FINISHED ASSEMBLY OR ASSEMBLY SIMILAR IN DESIGN SHALL BE FACTOR LEAK TESTED IN ACCORDANCE WITH ASTM E283.

C. INSTALL SPECIAL DOORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SHOP DRAWINGS.
D. PROVIDE 1-YEAR LIMITED WARRANTY AGAINST DEFECTS AND WORKMANSHIP FROM DATE OF SHIPMENT.

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SPECIFICATIONS

749 BOUSH STREET
FLOOD MITIGATION

ARCHITECTURAL SPECIFICATIONS

DIVISION 9-FINISHES

9.1 GYPSUM WALL BOARD SYSTEMS

A. PROVIDE GYPSUM BOARD COMPLYING WITH ASTM C36/C36M OR ASTM C 1396/C1396M, WHICHEVER IS MORE STRINGENT AS MANUFACTURED BY USG CORPORATION OR EQUAL.
B. REGULAR TYPE: 5/8" THICKNESS, LONG EDGES TAPERED AND FEATURED BEVELED FOR PREFILLING.
C. PROVIDE ALL TRIM ACCESSORIES COMPLYING WITH ASTM C1047, GALVANIZED OR ALUMINUM-COATED STEEL SHEET, ROLLED ZINC, PLASTIC OR PAPER-FACED GALVANIZED STEEL SHEET. PROVIDE CORNERBEADS, L-BEADS AND EXPANSION (CONTROL) JOINTS.
D. PROVIDE PAPER JOINT TAPE ON INTERIOR GYPSUM WALL BOARD.
E. FASTEN USING STEEL SCREWS IN THE SIZE, SPACING AND APPLICATION METHOD AS RECOMMENDED BY PANEL MANUFACTURER.
F. PROVIDE 7/8" FURRING CHANNEL, 20 GA. AS MANUFACTURED BY USG CORPORATION OR EQUAL.

9.2 NON STRUCTURAL METAL FRAMING

A. PROVIDE NON-LOAD BEARING STEEL STUD PARTITION WITH DEFLECTIONS CONFORMING TO L/240 AT 5 PSF FOR GYPSUM BOARD WALLS. MARINOWARE OR EQUAL. MEETS OR TESTED TO ASTM C645, C 754, E90 & E119. REFER TO PARTITION SCHEDULE FOR STUD GA. AND THICKNESSES.

9.3 CERAMIC TILE

A. IN LOBBY 100, PROVIDE EQUINOX NOCE CERAMIC FLOOR TILE BY LAUFEN, SIZE 12"X12". INSTALL PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
B. IN LOBBY 100, TILE BASE SHALL BE EQUNIOX NOCE CERAMIC TILE BY LAUFEN, 6"x12" COVE BASE. INSTALL PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
C. IN VESTIBULE 101 AND 107, PROVIDE MARAZZI VERSALE STONE, COLOR MOSS, SIZE 13"X13". INSTALL PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
D. IN VESTIBULE 101 AND 107, PROVIDE MARAZZI VERSALE STONE, COLOR MOSS, SIZE 6"X13" COVE BASE. INSTALL PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
E. REUSE EXISTING ALUMINUM TRANSITION STRIPS AT THRESHOLDS, TYP.
F. GROUT: MAPEI FLEXCOLOR CQ. INSTALL PER MANUFACTURER'S INSTRUCTIONS. COLOR SHALL BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

9.4 CARPET

A. WHERE SHOWN ON THE DRAWINGS, PROVIDE BENTLY CARPET TILE "VERTEX", COLORWAY "TRIBULATION" WITH NEXTSTEP CUSHION. MONOLITHIC INSTALL. PROVIDE MANUFACTURER'S STANDARD WARRANTY. INSTALL PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
B. PROVIDE 4" MATCHING CARPET BASE.

9.5 PAINT

A. ALL NEW INTERIOR GYPSUM WALL BOARD AND WOOD TRIM SHALL RECEIVE ONE COAT PRIMER AND TWO COATS PAINT AS MANUFACTURED BY SHERWIN-WILLIAMS OR EQUAL. CONTRACTOR SHALL MATCH EXISTING INTERIOR PAINT COLOR AND FINISH. PROVIDE SAMPLES TO ARCHITECT FOR REVIEW AND APPROVAL.

DIVISION 10-SPECIALTIES

10.1 FIRE EXTINGUISHERS

A. PROVIDE LARSON 2A 20BC FIRE EXTINGUISHER IN STAINLESS STEEL SEMI-RECESSED CABINET WITH ACRYLIC FACE WHERE SHOWN ON THE DRAWINGS. INSTALL AT ADA LEVEL.

DIVISION 12-FURNISHINGS

12.1 WINDOW BLINDS

A. FURNISH AND INSTALL 1" MINI HORIZONTAL ALUMINUM BLINDS (PREMIUM QUALITY) AS MANUFACTURED BY HUNTER DOUGLAS CONTRACT OR APPROVED EQUAL. WWW.HUNTERDOUGLASCONTRACT.COM. SLATS SHALL BE 1" WIDE x .006" THICK, HEAT-TREATED AND SPRING TEMPERED ALUMINUM ALLOY 6011 WITH EASED CORNERS AND ALL MANUFACTURING BURRS REMOVED. FURNISH NOT LESS THAN NOMINAL 13.8 SLATS PER FOOT TO ENSURE TIGHT CLOSURE AND LIGHT CONTROL. FINISH WITH MANUFACTURER'S STANDARD BAKED-ON FINISH IN COLOR SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.
B. HEADRAIL: PROVIED U-SHAPED PROFILE WITH ROLLED EDGES MEASURING 1"x1"x.024" CONSTRUCTED OF CORROSION RESISTANT STEEL. HEADRAIL FINISH TO BE STANDARD BAKED-ON POLYESTER AND TO MATCH SLATS. ENDS FITTED WITH .024" STEEL END LOCK WITH ADJUSTABLE TAB FOR CENTERING BLINDS.
C. SHADES SHALL BE PROVIDED FOR ALL WINDOWS AND STOREFRONT GLAZING.
D. PROVIDE MANUFACTURER'S STANDARD LIMITED LIFETIME WARRANTY.

DIVISION 22-PLUMBING

SEE PLUMBING.

DIVISION 26-ELECTRICAL

SEE ELECTRICAL.

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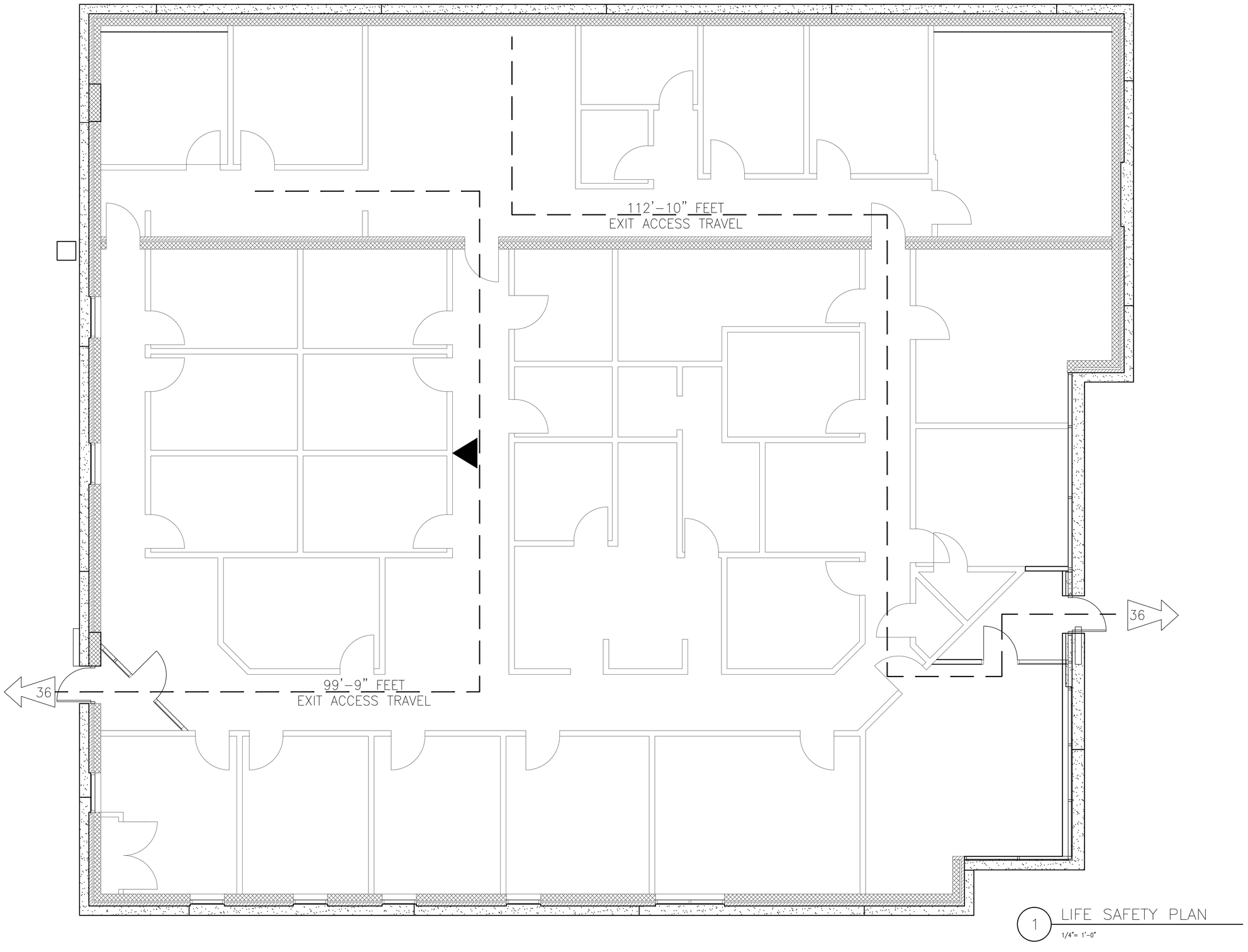

1 LIFE SAFETY PLAN
1/4"= 1'-0"

LEGEND

▲ F.E.C.

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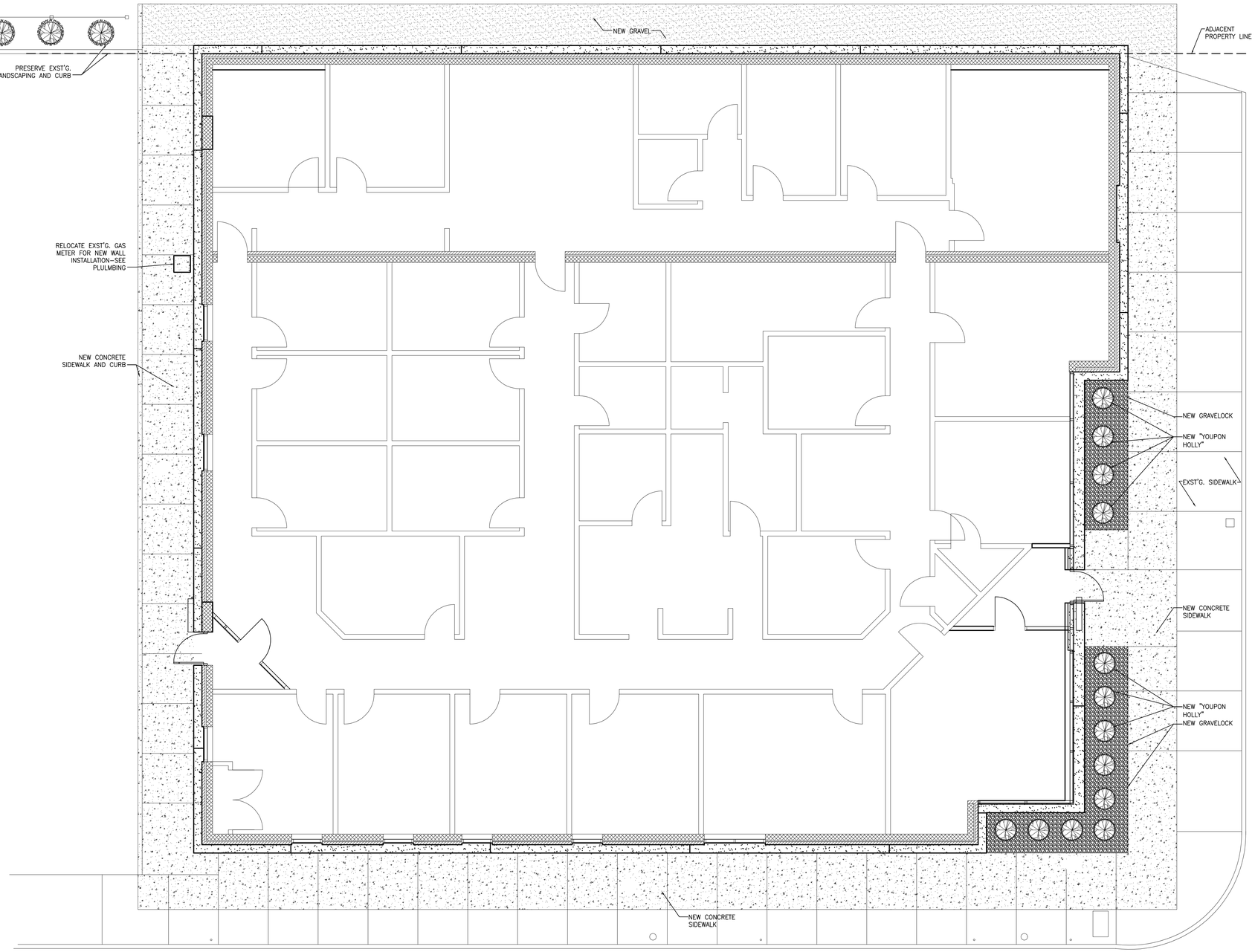
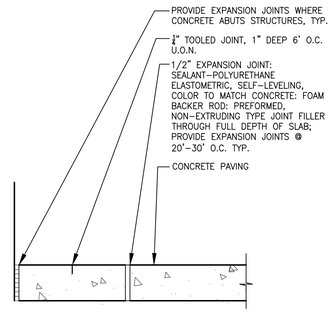
LIFE SAFETY PLAN

749 BOUSH STREET

FLOOD MITIGATION



1 ARCHITECTURAL SITE PLAN
3/16"= 1'-0"



2 CONCRETE JOINT DETAIL
1-1/2"= 1'-0"

NEW WORK NOTES

1. PROVIDE IIEX VOMITORIA "YAUPON HOLLY" 15 GAL. TREES WHERE SHOWN ON THE DRAWINGS.

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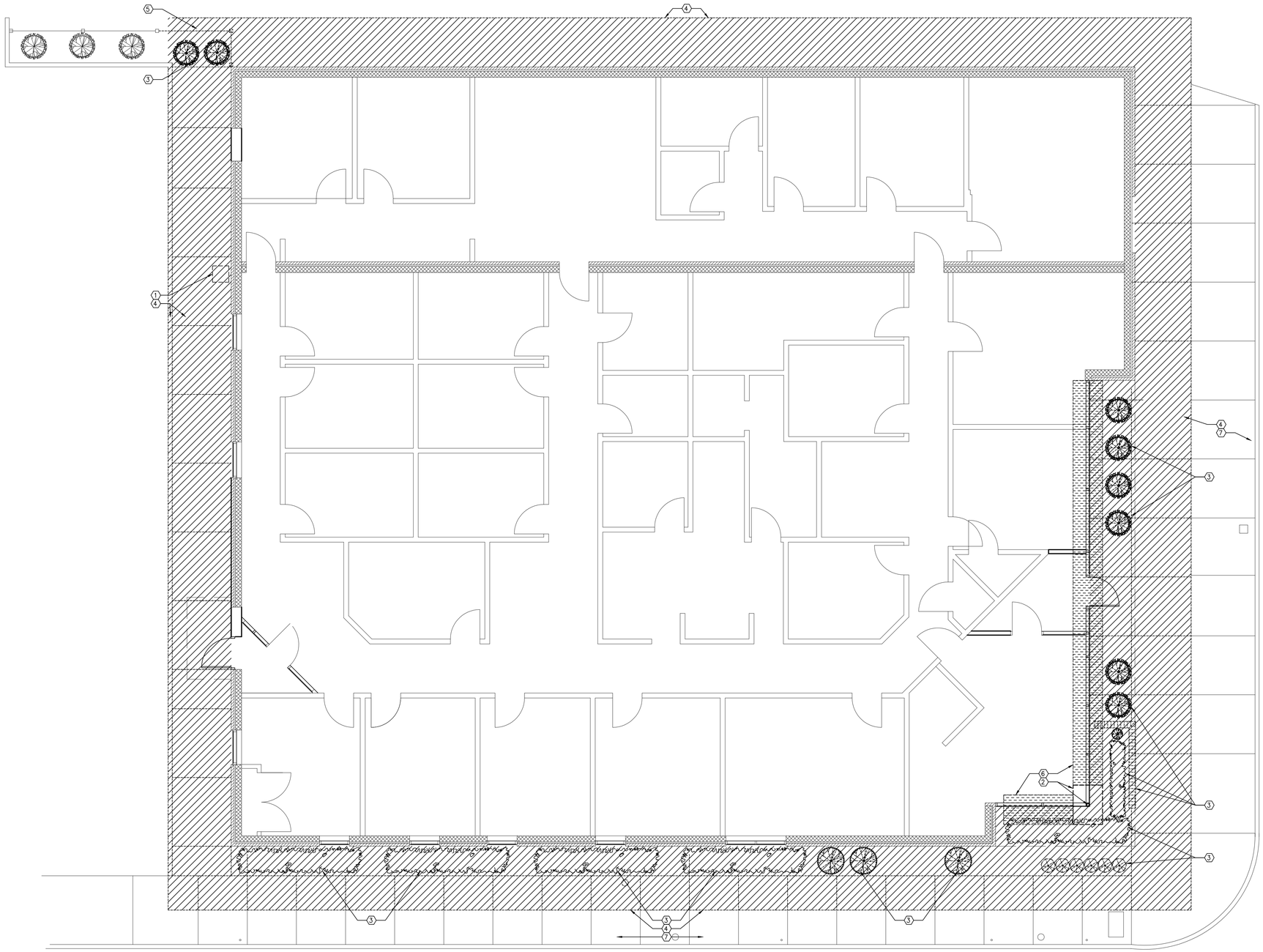
ARCHITECTURAL SITE PLAN

749 BOUSH STREET
FLOOD MITIGATION



1 DEMOLITION ARCHITECTURAL SITE PLAN
3/16"= 1'-0"

DEMOLITION NOTES

1. REMOVE EXISTING GAS METER AND PIPING. RELOCATE PER THE NEW PLAN. SEE MPE DRAWINGS.
2. EXISTING STEEL COLUMN AND FOOTING SHALL REMAIN IN PLACE.
3. REMOVE ALL EXISTING LANDSCAPING IN ITS ENTIRETY, INCLUDING BRICKS, TREES, ROOTS, ROCKS AND SOIL.
4. REMOVE CONCRETE, CURB AND ASPHALT FOR INSTALLATION OF NEW FOOTINGS.
5. REMOVE FENCING AS REQUIRED FOR INSTALLATION OF NEW FOOTINGS AND CONCRETE.
6. CONTACT STRUCTURAL ENGINEER ONCE EXISTING FOOTINGS ARE EXPOSED AND PRIOR TO STARTING DEMOLITION OF FOOTINGS.
7. PROTECT EXISTING CONCRETE NOT BEING DEMOLISHED AND REPLACED WITH PLYWOOD PANELS UNTIL COMPLETION OF CONSTRUCTION.

LEGEND

REMOVE CONCRETE SLAB FOR INSTALLATION OF NEW FOOTINGS

REMOVE EXISTING FOOTINGS. SEE NOTE #6 ABOVE.

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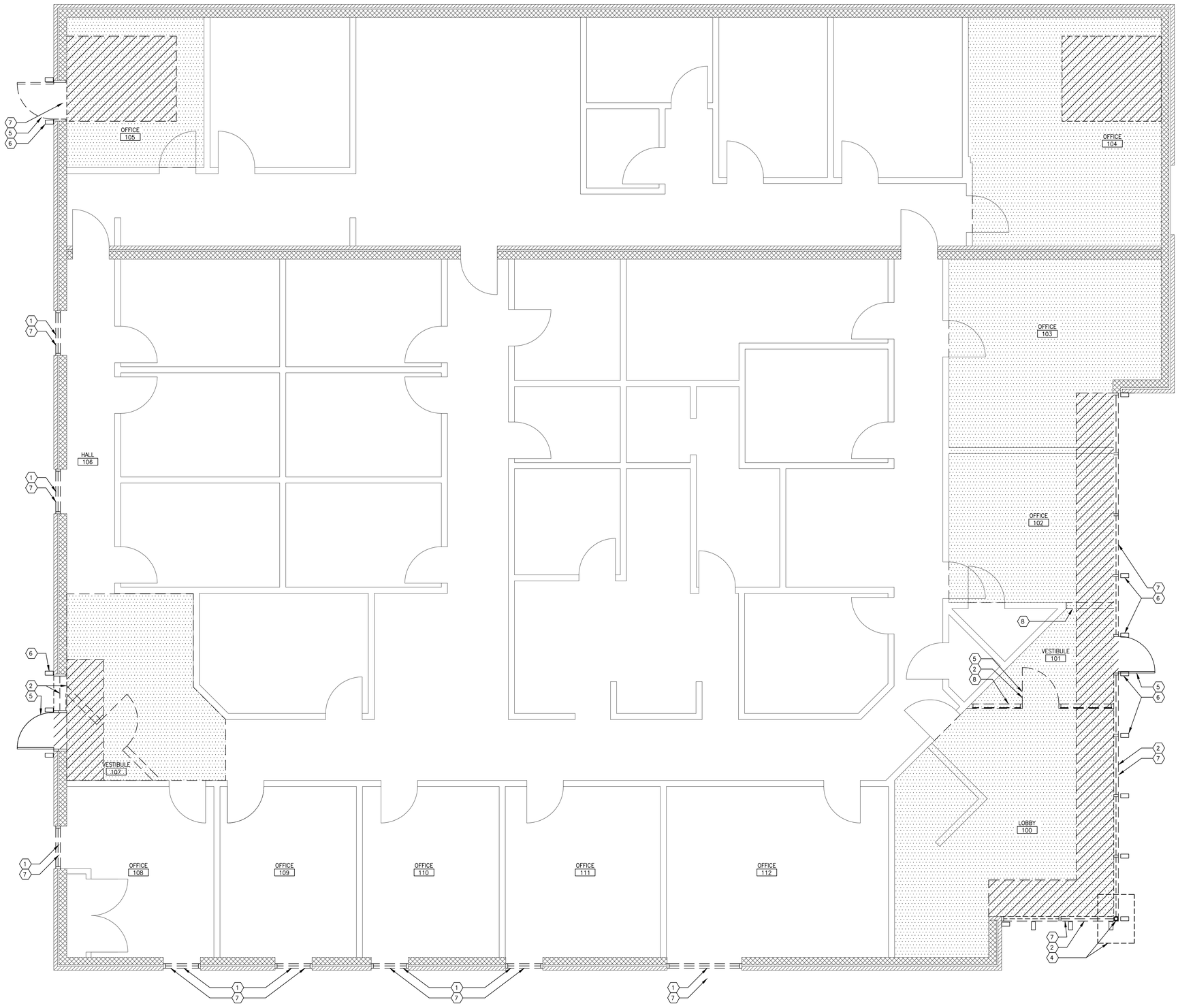
DEMOLITION SITE PLAN

749 BOUSH STREET
FLOOD MITIGATION



DEMOLITION NOTES

1. REMOVE WINDOW, FRAME AND SILL IN THEIR ENTIRETY, INCLUDING ALL ASSOCIATED CAULK, STRAPPING ETC. PREP HEAD AND JAMBS FOR RECEIPT OF NEW WINDOW.
2. REMOVE EXISTING STOREFRONT IN ITS ENTIRETY, INCLUDING ALL ASSOCIATED CAULK, STRAPPING ETC. PREP HEAD AND JAMBS FOR RECEIPT OF NEW STOREFRONT.
3. REMOVE EXISTING GAS METER AND PIPING. RELOCATE PER THE NEW PLAN. SEE MPE DRAWINGS.
4. EXISTING STEEL COLUMN AND FOOTING SHALL REMAIN IN PLACE.
5. REMOVE EXISTING DOOR IN ITS ENTIRETY.
6. REMOVE ALL EXISTING FLOOD BARRIER SUPPORTS, TYP.
7. REMOVE ALL EXST'G. WINDOW TREATMENTS AND TURN OVER TO OWNER.
8. REMOVE EXST'G. DRYWALL PARTITION TO LIMITS SHOWN FOR INSTALLATION OF NEW STOREFRONT AND FOOTINGS.

LEGEND

REMOVE CONCRETE SLAB FOR INSTALLATION OF NEW FOOTINGS AND SUMP PITS.

REMOVE FLOOR FINISH AND WALL BASE

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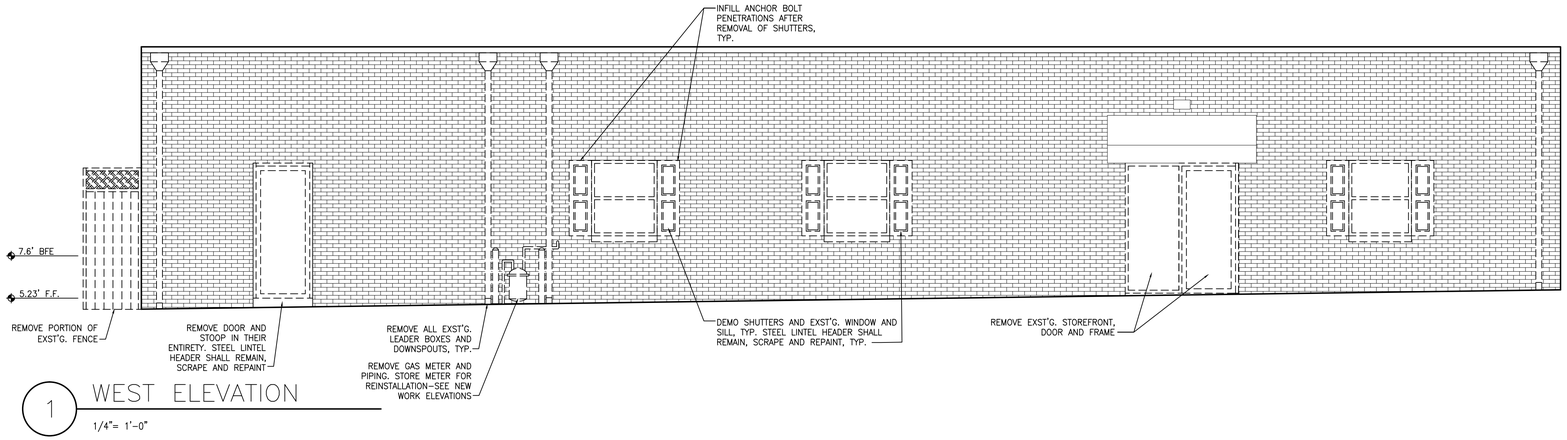
DEMOLITION
FLOOR PLAN

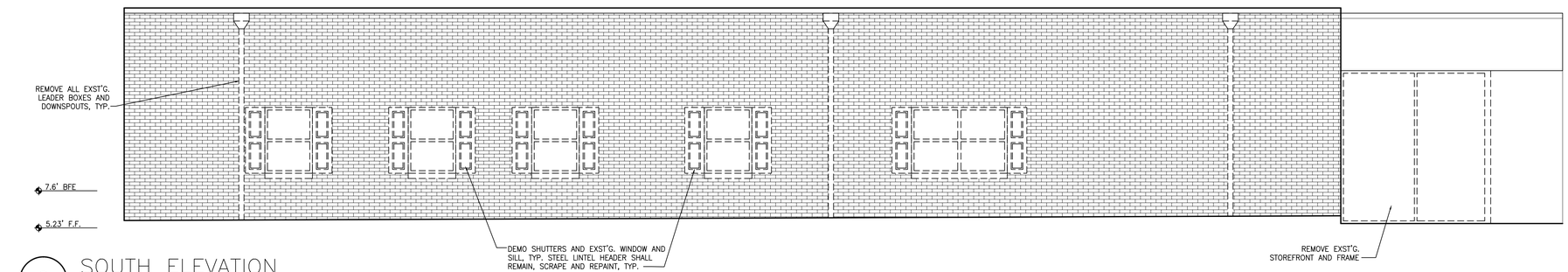
1 DEMOLITION FLOORPLAN
1/4"= 1'-0"

749 BOUSH STREET
FLOOD MITIGATION



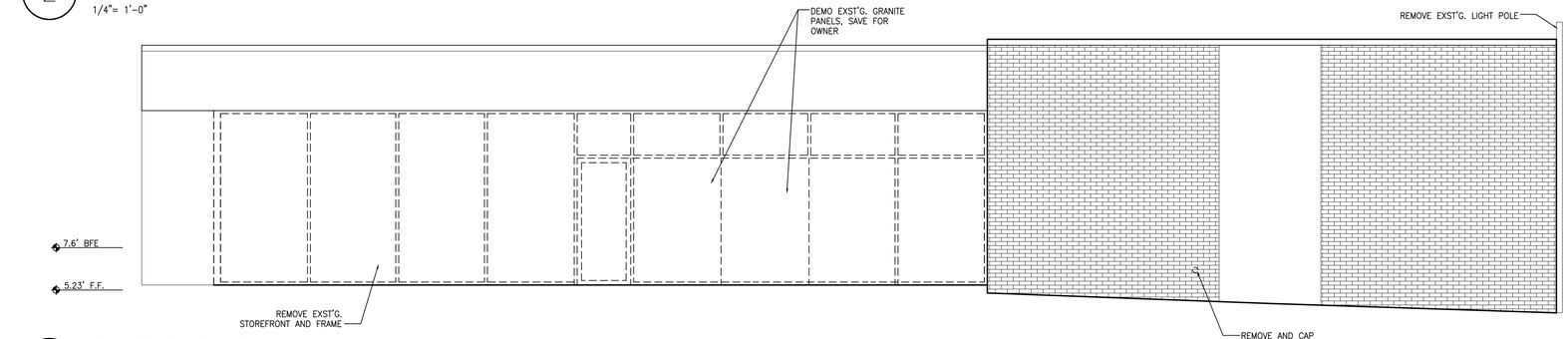
1 WEST ELEVATION

1/4"= 1'-0"



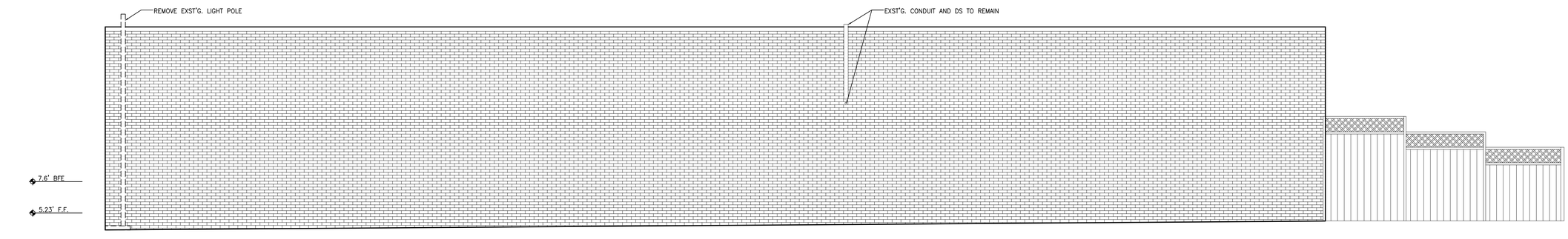
2 SOUTH ELEVATION

1/4"= 1'-0"



3 EAST ELEVATION

1/4"= 1'-0"



4 NORTH ELEVATION

1/4"= 1'-0"

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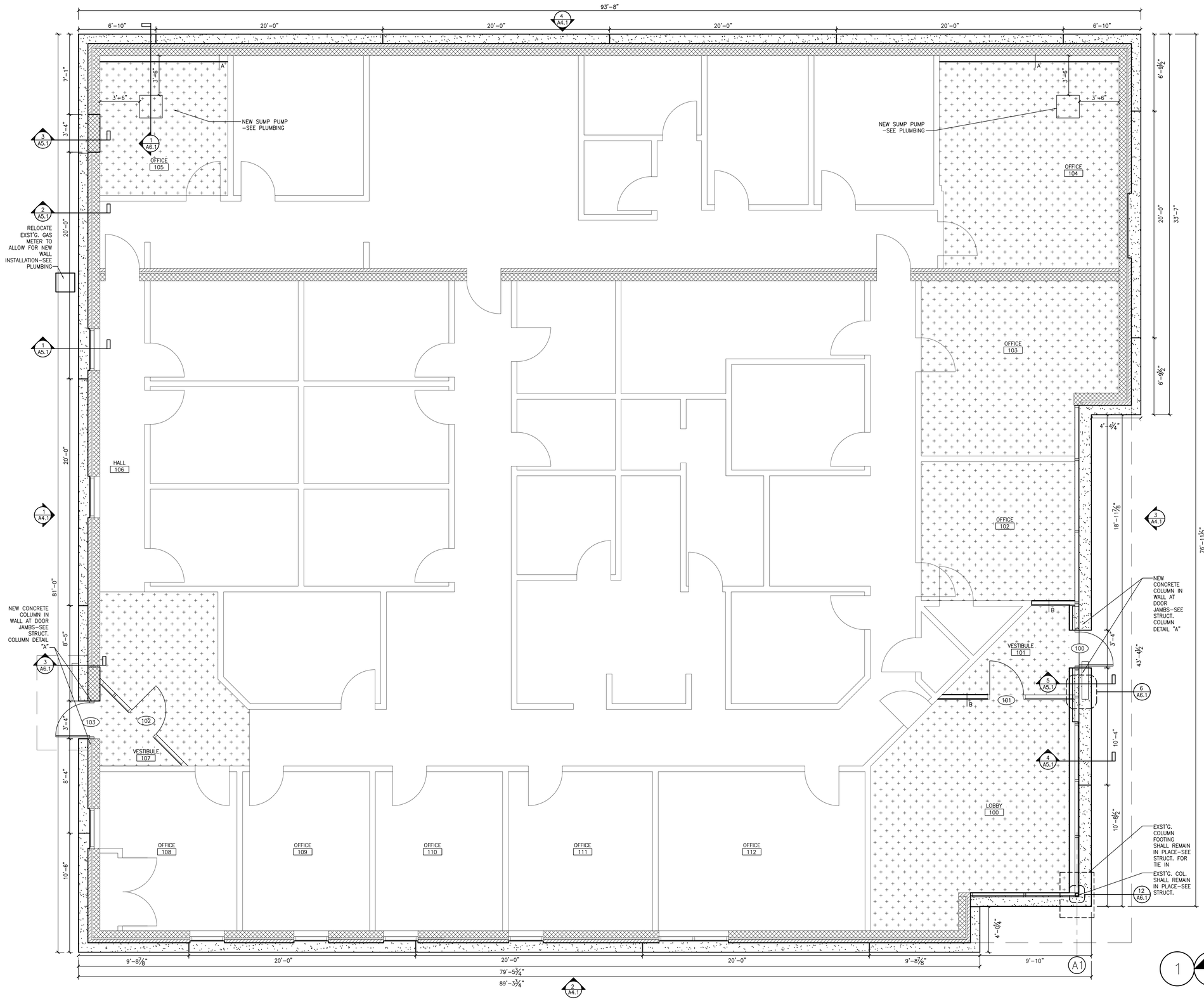
D2.1

DEMOLITION
EXTERIOR
ELEVATIONS

749 BOUSH STREET
FLOOD MITIGATION



NEW WORK NOTES

1. CONTRACTOR SHALL F.V. ALL EXST'G. FOOTINGS PRIOR TO START OF CONSTRUCTION.

LEGEND

NEW FLOORING AND WALL BASE. SEE FINISH SCHEDULE SHEET A6.1.

1 NEW WORK FLOORPLAN
1/4"= 1'-0"

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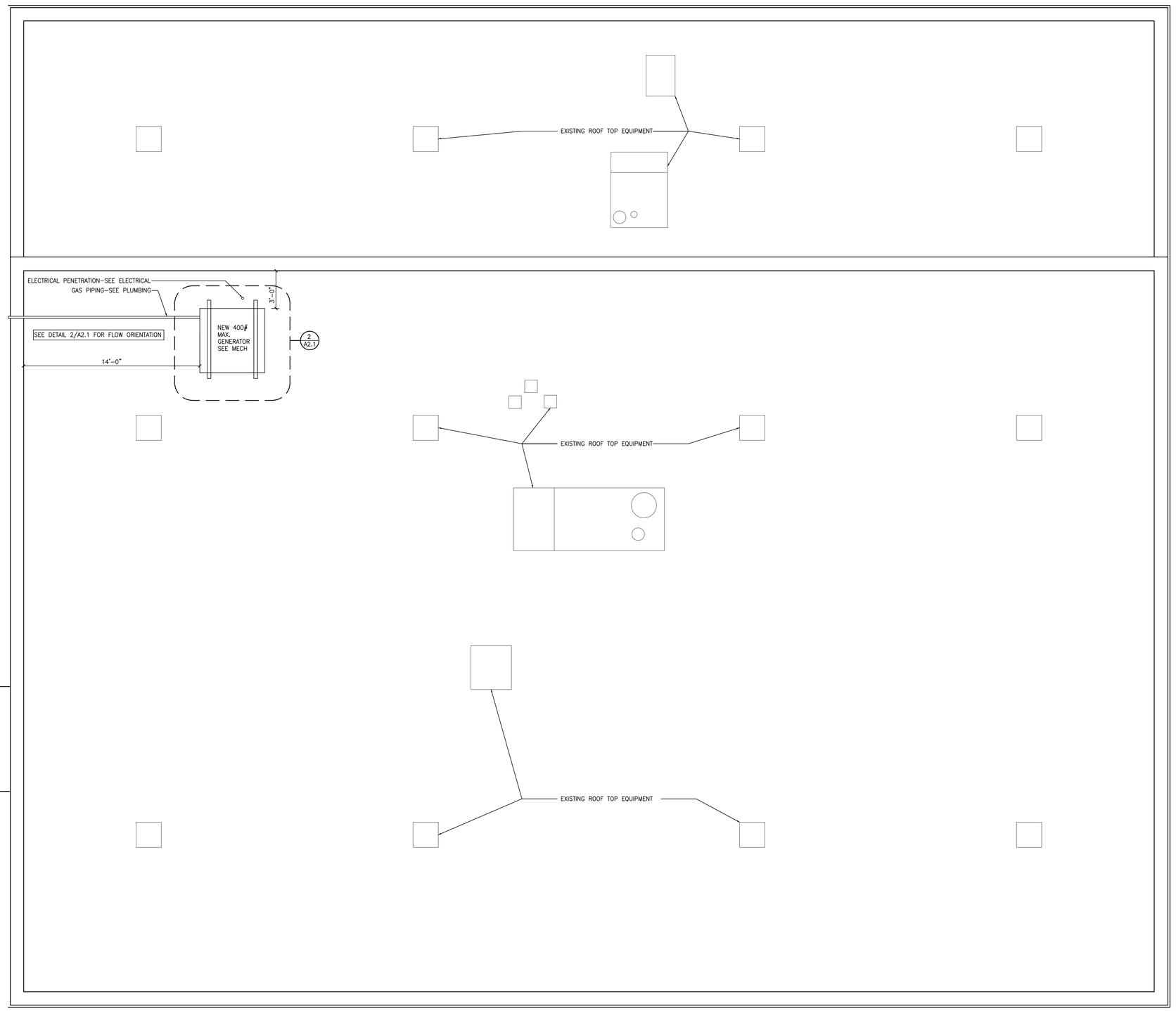
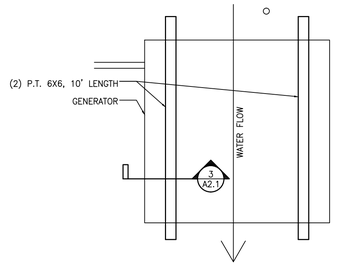
NEW WORK FLOOR PLAN

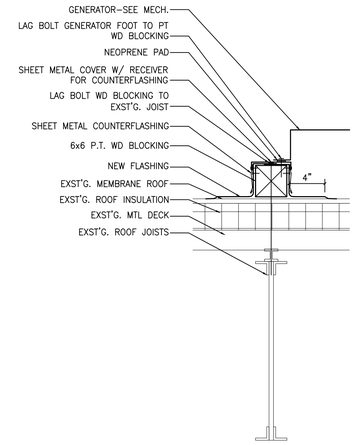
749 BOUSH STREET
FLOOD MITIGATION



1 ROOF PLAN
1/4"= 1'-0"



2 GENERATOR PLAN
1/2"= 1'-0"



3 GENERATOR DETAIL
1–1/2"= 1'–0"

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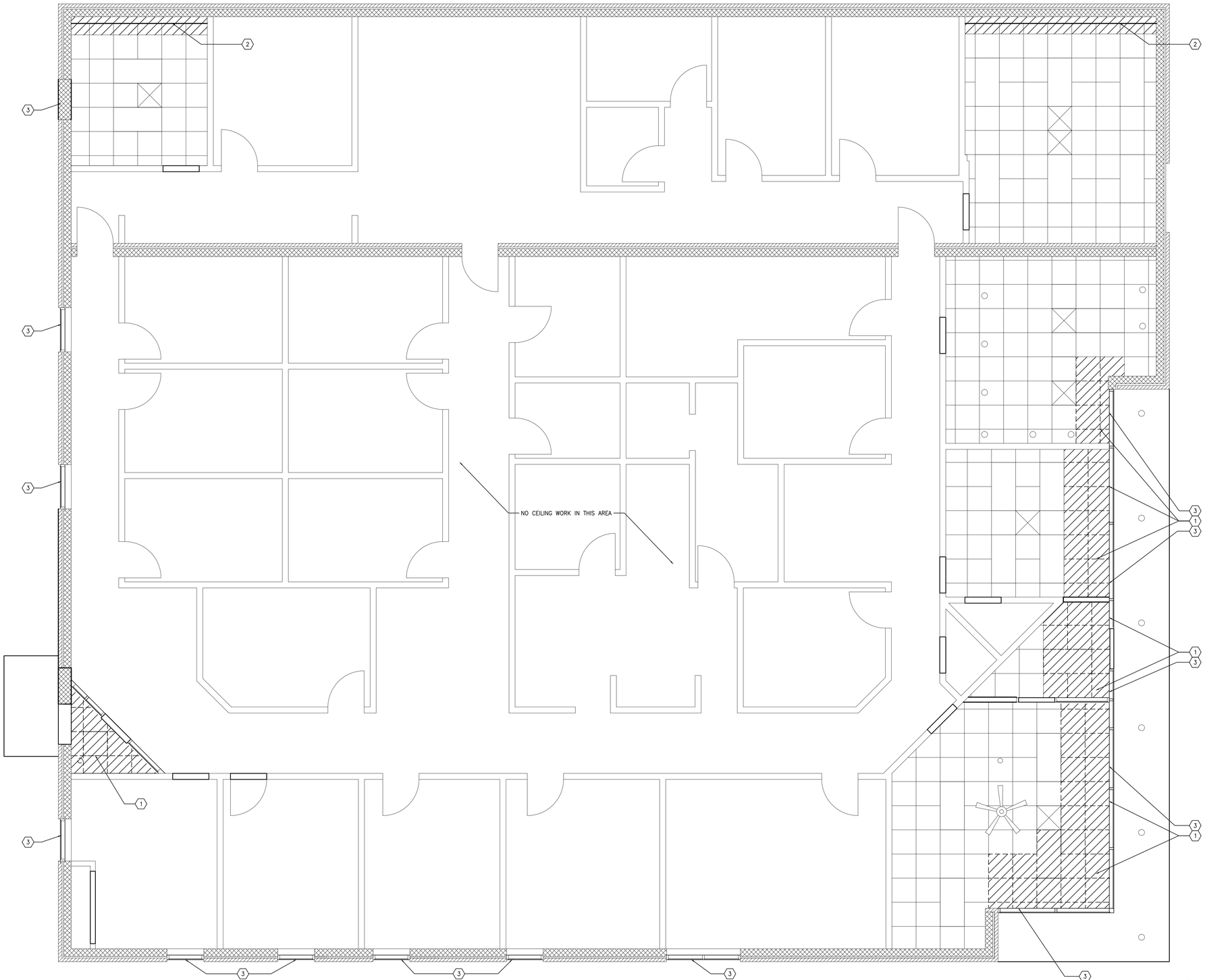
A2.1
ROOF PLAN

749 BOUSH STREET
FLOOD MITIGATION



RCP NOTES

1. REMOVE SAT TILES, LIGHTS AND GRID TO LIMITS SHOWN FOR ATTACHMENT OF NEW STOREFRONT. STORE SAT TILES, LIGHTS AND GRID DURING CONSTRUCTION. REINSTALL SAT TILES, LIGHTS AND GRID AFTER INSTALLATION OF NEW STOREFRONT.

2. DEMO SAT TILES AND GRID FOR INSTALLATION OF NEW PARTITION. ATTACH EXISTING GRID TO NEW WALL. PROVIDE NEW EDGE ANGLE AT WALL.

3. REMOVE ALL BLINDS, CORNICE BOXES ETC. AND TURN OVER TO OWNER.

LEGEND

- EXISTING 2X4 LIGHT FIXTURE
- EXISTING 2X2 LIGHT FIXTURE
- EXISTING RECESSED LIGHT FIXTURE
- EXISTING MECHANICAL DIFFUSER/RETURN AIR GRILLE
- EXISTING CEILING FAN
- APPROX. LIMITS OF CEILING REMOVAL FOR NEW STOREFRONT ATTACHMENT. STORE ALL REMOVED CEILING COMPONENTS (TILES, LIGHTS AND GRID) AND REINSTALL AFTER NEW STOREFRONT IS IN PLACE.

1 REFLECTED CEILING PLAN
1/4"= 1'-0"

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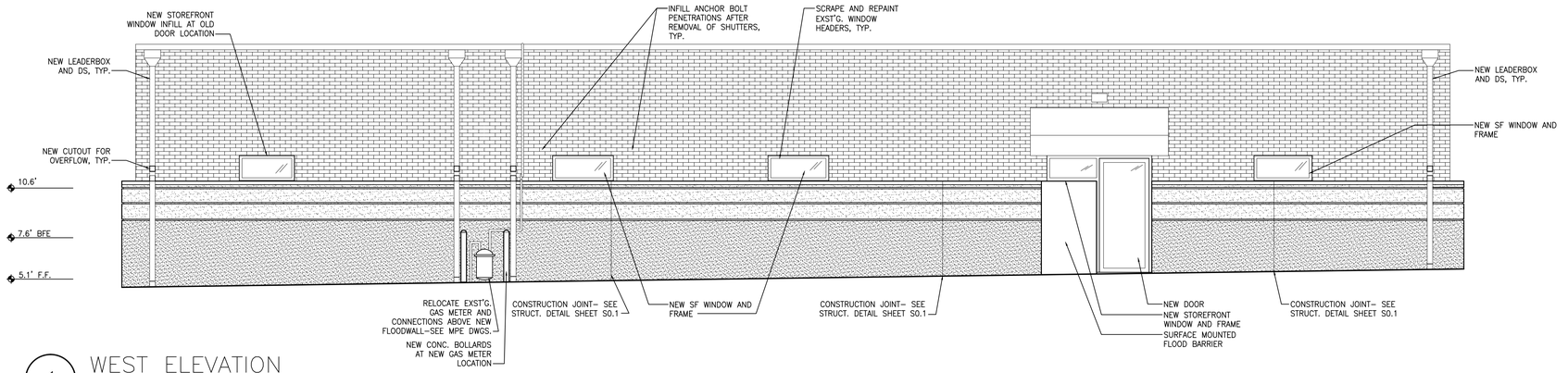
A3.1

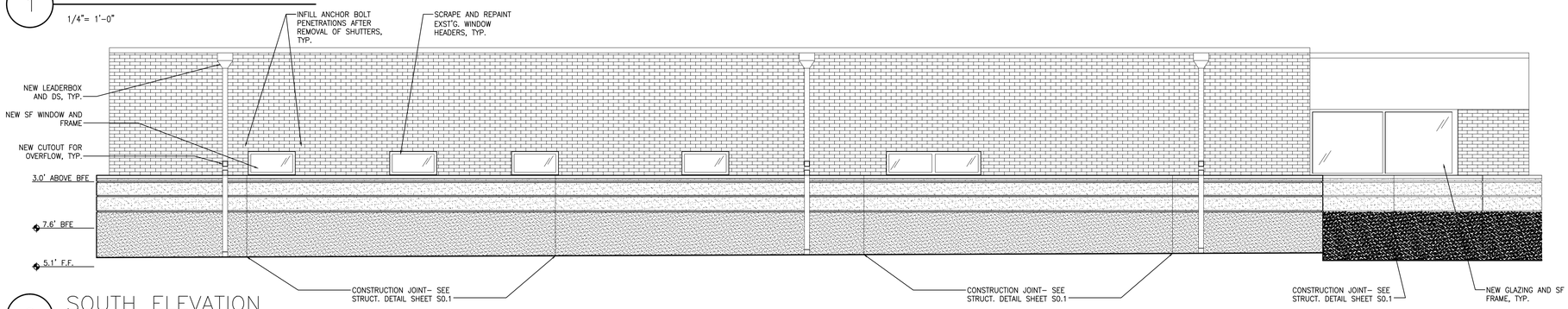
REFLECTED CEILING PLAN

749 BOUSH STREET
FLOOD MITIGATION



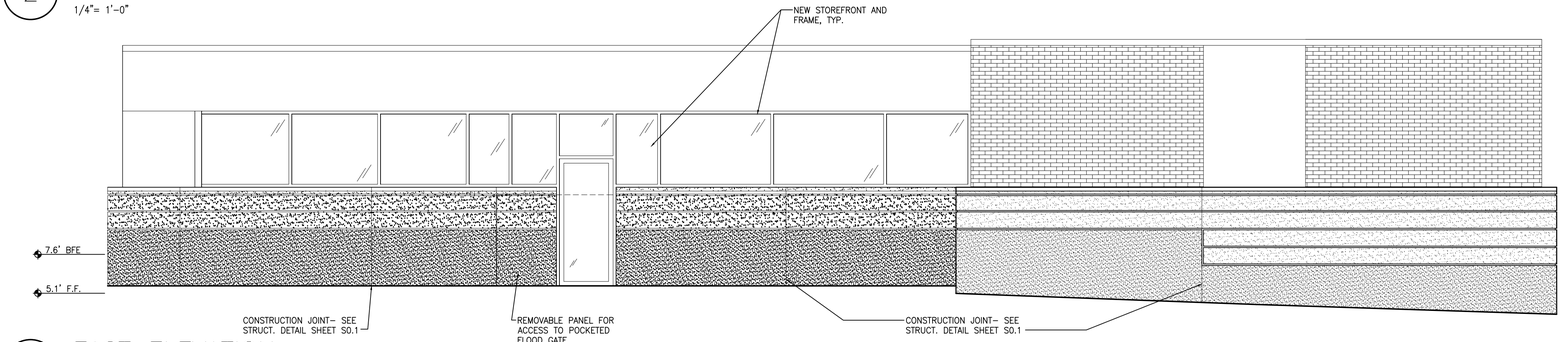
1 WEST ELEVATION

1/4"= 1'–0"



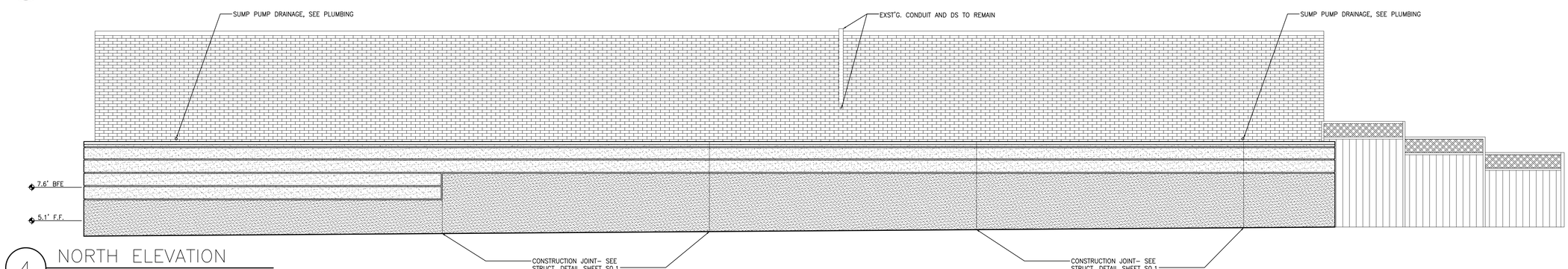
2 SOUTH ELEVATION

1/4"= 1'–0"



3 EAST ELEVATION

1/4"= 1'–0"



4 NORTH ELEVATION

1/4"= 1'–0"

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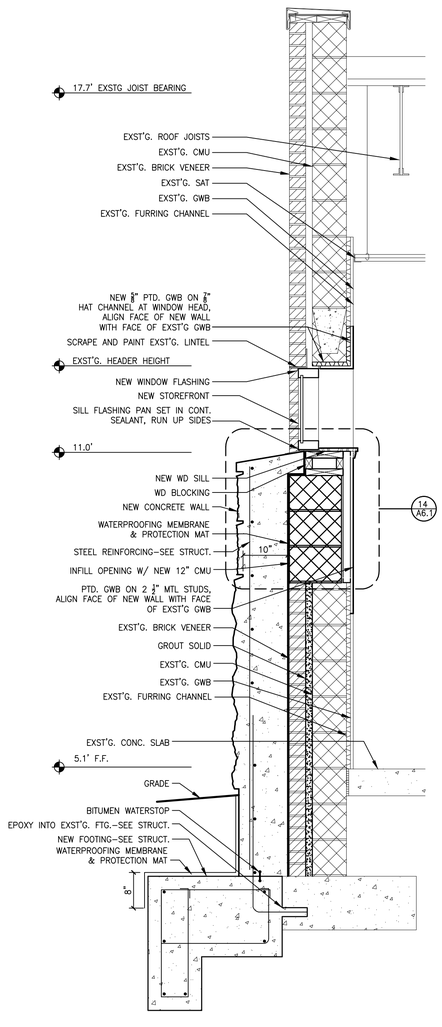
EXTERIOR ELEVATIONS

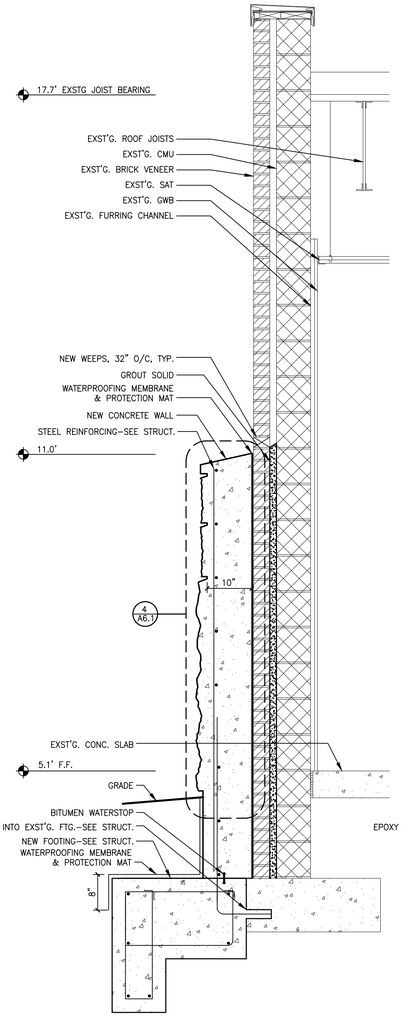
749 BOUSH STREET

FLOOD MITIGATION



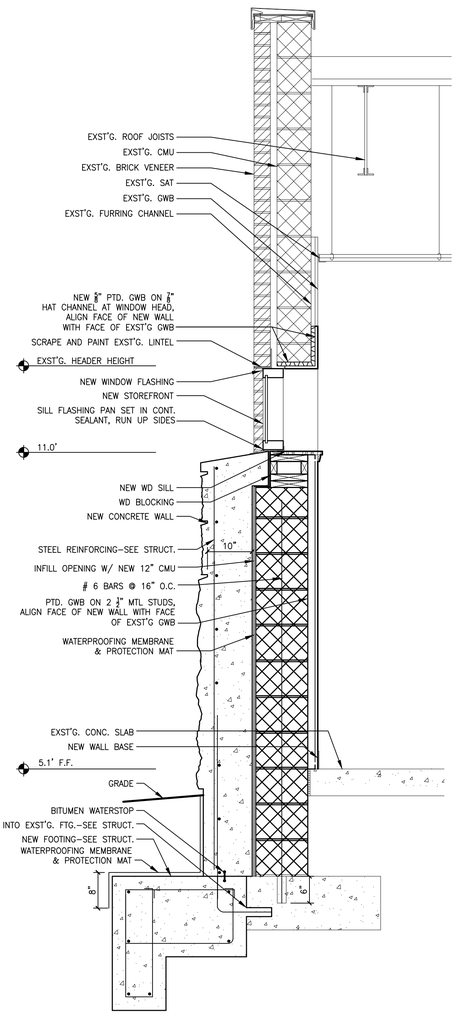
1 WALL SECTION

3/4"= 1'-0"



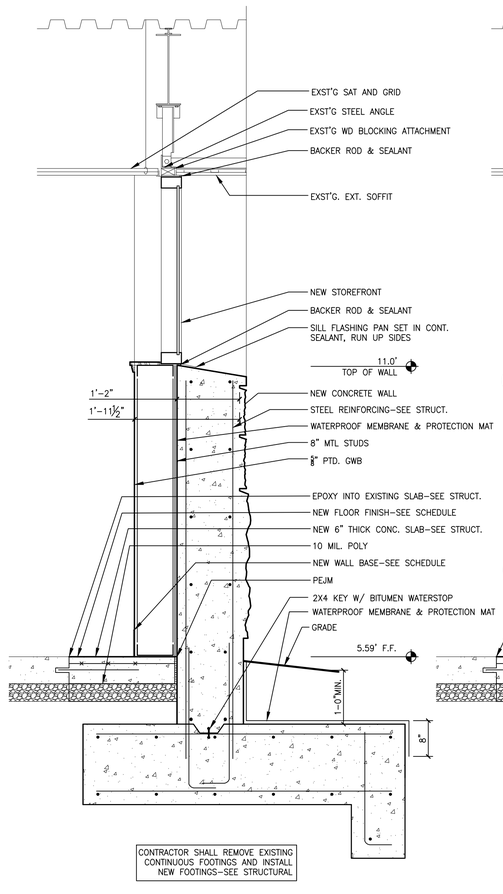
2 WALL SECTION

3/4"= 1'-0"



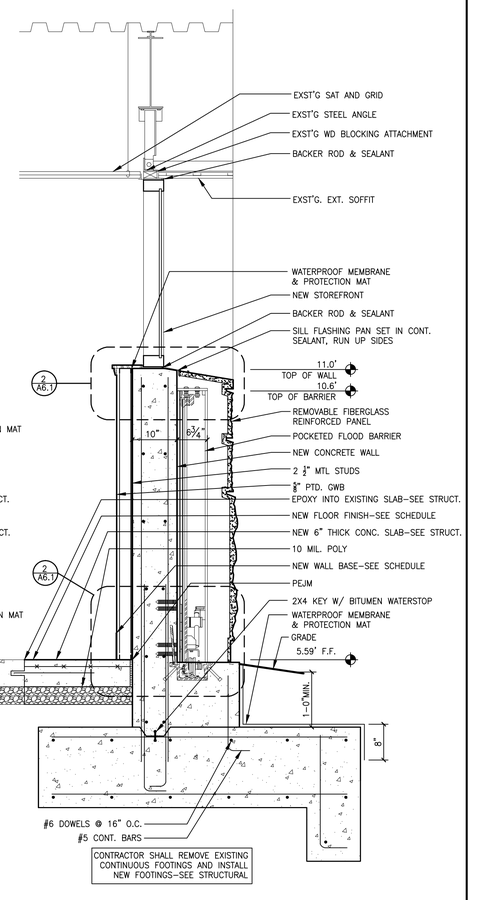
3 WALL SECTION

3/4"= 1'-0"



4 WALL SECTION

3/4"= 1'-0"



5 WALL SECTION

3/4"= 1'-0"

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A5.1

WALL SECTIONS

749 BOUSH STREET

FLOOD MITIGATION

FINISH SCHEDULE

MARK	NAME	FLOOR	BASE	WALLS	CEILING	NOTES
100	LOBBY	CT	CT	PTD. GWB	EXST'G.	1.
101	VESTIBULE	CT	CT	PTD. GWB	EXST'G.	1.
102	OFFICE	CPT	CPT	PTD. GWB	EXST'G.	1.
103	OFFICE	CPT	CPT	PTD. GWB	EXST'G.	1.
104	OFFICE	CPT	CPT	PTD. GWB	EXST'G.	1., 2.
105	OFFICE	CPT	CPT	PTD. GWB	EXST'G.	1., 2.
106	HALL	CPT	CPT	PTD. GWB	EXST'G.	1.
107	VESTIBULE	CT	CT	PTD. GWB	EXST'G.	1.
108	OFFICE	EXST'G.	EXST'G.	PTD. GWB	EXST'G.	
109	OFFICE	EXST'G.	EXST'G.	PTD. GWB	EXST'G.	
110	OFFICE	EXST'G.	EXST'G.	PTD. GWB	EXST'G.	
111	OFFICE	EXST'G.	EXST'G.	PTD. GWB	EXST'G.	
112	OFFICE	EXST'G.	EXST'G.	PTD. GWB	EXST'G.	

DOOR SCHEDULE

MARK	OPENING SIZE*	TYPE	FRAME	HEAD	JAMB	SILL	NOTES
100	3'-0" X 7'-0"	A	ALUM	13/A6.1	9/A6.1	5/A6.1	1.
101	3'-0" X 7'-0"	B	ALUM	13/A6.1	10/A6.1	11/A6.1	1.
102	3'-0" X 7'-0"	C	ALUM	13/A6.1	10/A6.1	11/A6.1	1.
103	3'-0" X 7'-0"	A	ALUM	7/A6.1	8/A6.1	5/A6.1	1.

DOOR NOTES

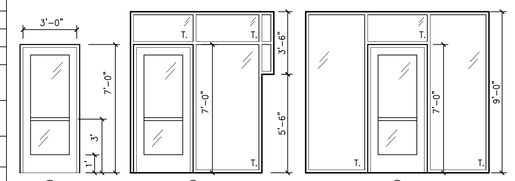
NOTE 1 CONTRACTOR SHALL VERIFY ALL OPENING IN THE FIELD PRIOR TO SUBMISSION OF BID & SHOP DRAWINGS & SHALL CORRECTLY SIZE NEW DOORS FOR EXISTING OPENINGS.

FINISH SCHEDULE NOTES

NOTE 1 REFER TO SHEET A3.1 FOR EXTENTS OF CEILING REMOVAL AND REINSTALLATION.

NOTE 2 ADHERE LIKE CARPET TILE TO METAL SUMP PIT COVER.

DOOR TYPES: 1/4" = 1'-0"



A ALUM STOREFRONT DOOR AND FRAME

B ALUM STOREFRONT DOOR AND FRAME

C ALUM STOREFRONT DOOR AND FRAME

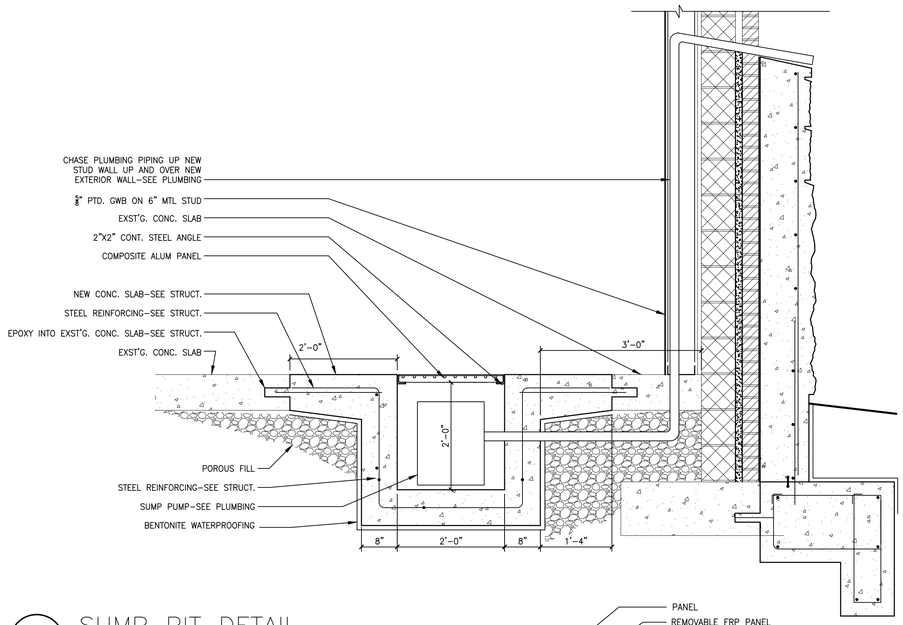
PARTITION SCHEDULE

PARTITION TYPE A

FURRING PARTITION: 6" STEEL STUDS @ 16" O.C. WITH 5/8" GWB ONE SIDE OF STUDS. STOP PARTITION 4" ABOVE LOWEST CEILING.

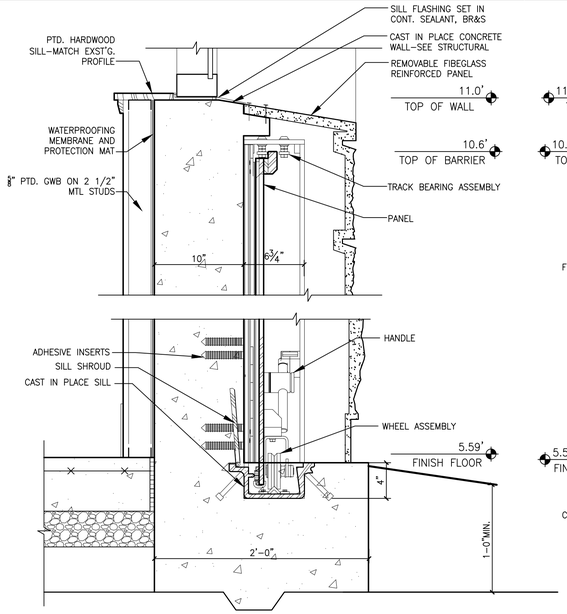
PARTITION TYPE B

DRYWALL PARTITION: 8" STEEL STUDS @ 16" O.C. WITH 5/8" GWB EA. SIDE OF STUDS. SET TOP AND BOTTOM TRACK IN CONT. BED OF ACOUSTICAL SEALANT. CONTINUE PARTITION TO STRUCTURE ABOVE.



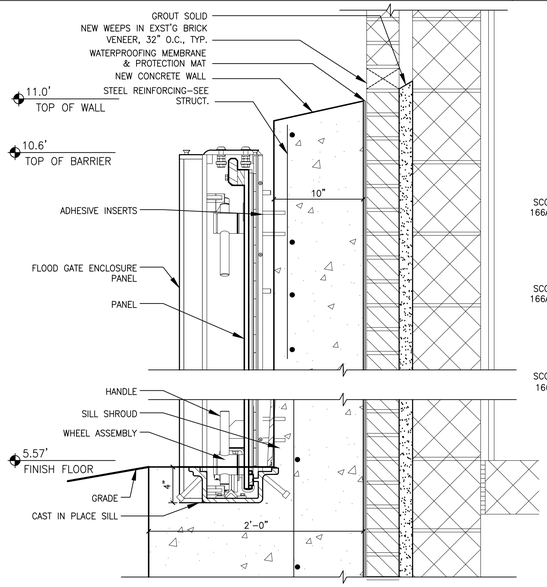
1 SUMP PIT DETAIL

3/4"= 1'-0"



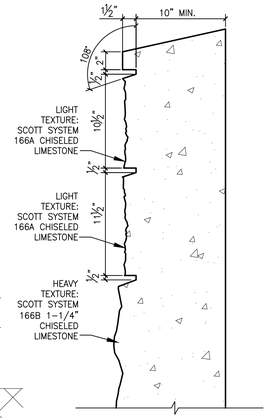
2 HEAD/SILL DETAIL

1-1/2"= 1'-0"



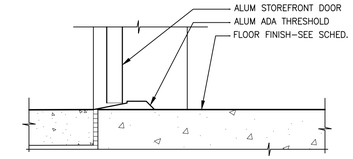
3 HEAD/SILL DETAIL

1-1/2"= 1'-0"



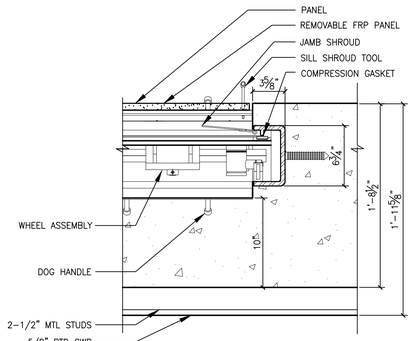
4 TYP. CONCRETE WALL REVEAL DETAIL

1-1/2"= 1'-0"



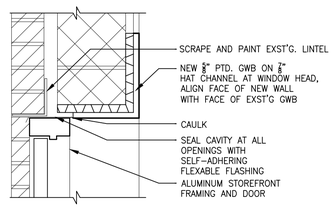
5 SILL DETAIL

1-1/2"= 1'-0"



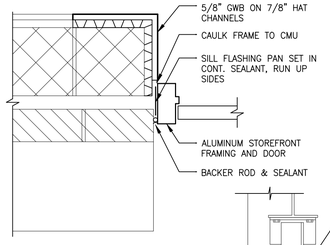
6 DETAIL

1-1/2"= 1'-0"



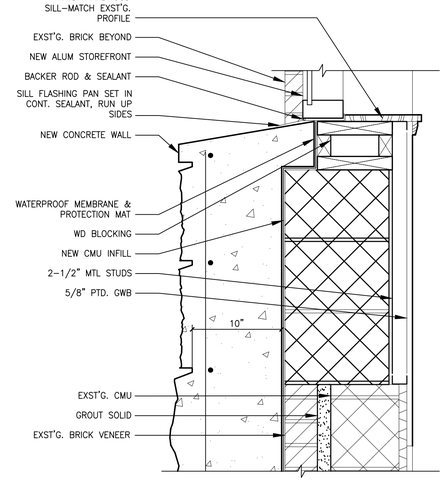
7 HEAD DETAIL

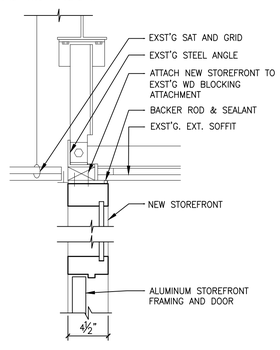
1-1/2"= 1'-0"

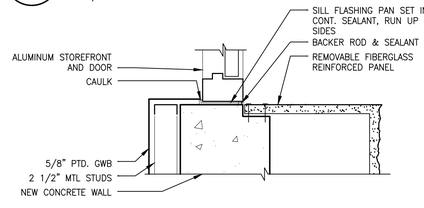


8 JAMB DETAIL

1-1/2"= 1'-0"

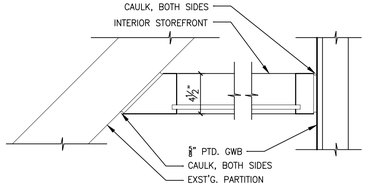






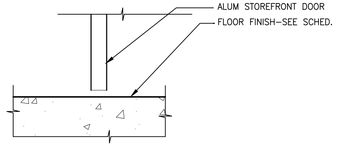
9 JAMB DETAIL

1-1/2"= 1'-0"



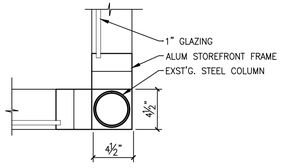
10 JAMB DETAIL

1-1/2"= 1'-0"



11 SILL DETAIL

1-1/2"= 1'-0"



12 DETAIL

1-1/2"= 1'-0"

13 HEAD DETAIL

1-1/2"= 1'-0"

14 SILL DETAIL

1-1/2"= 1'-0"

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SCHEDULES AND DETAILS

749 BOUSH STREET

FLOOD MITIGATION

GENERAL STRUCTURAL NOTES:

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.
3. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO VERIFY ALL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
4. THE ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND SEQUENCES OF PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ARCHITECT.
6. LOADING APPLIED TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADINGS USED IN THE DESIGN OF THIS STRUCTURE ARE INDICATED IN THE "DESIGN CRITERIA NOTES". DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACING IS IN PLACE.
7. ALL ASTM AND OTHER CODE REFERENCES ARE PER THE LATEST EDITIONS OF THESE STANDARDS, UNLESS OTHERWISE NOTED.
8. SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR BEFORE SUBMITTAL. THE ENGINEER'S REVIEW IS TO BE FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC.
10. IN NO CASE SHALL REPRODUCTION OF THE CONTRACT DRAWINGS BE USED AS SHOP DRAWINGS. AS A MINIMUM SUBMIT THE FOLLOWING ITEMS FOR REVIEW:
    A. CONCRETE MIX DESIGNS.
    B. REINFORCING STEEL SHOP DRAWINGS.
    C. OTHER SUBMITTALS MAY BE REQUIRED AS PER THE SPECIFICATIONS.
11. IN ACCORDANCE WITH 2009 INTERNATIONAL BUILDING CODE, SECTION 1704 SPECIAL INSPECTIONS ARE REQUIRED. THE OWNER WILL HIRE THE SPECIAL INSPECTOR TO PERFORM ALL REQUIRED SPECIAL INSPECTIONS.

DESIGN CRITERIA NOTES:

1. THE APPLICABLE DESIGN STANDARDS AND/ OR CRITERIA ARE AS FOLLOWS:

GENERAL	IBC 2012 EDITION
CONCRETE	ACI 318-08
MASONRY	ACI 530-08
STRUCTURAL STEEL	AISC ASD THIRTEENTH EDITION
FOUNDATIONS	SOILS INVESTIGATION AND REPORT BY GET SOLUTIONS

2. DESIGN GRAVITY LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

ROOFS	20 PSF
FLOORS	50 PSF

3. DESIGN SNOW LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:
   Pg (GROUND SNOW LOAD)=10 PSF, Ce=0.9, I=1.0, Pf=6.3 PSF

FOUNDATION NOTES:

1. ALL FOOTINGS SHALL BEAR ON UNDISTURBED, FIRM NATURAL SOIL OR COMPACTED FILL CAPABLE OF SUPPORTING A NET DESIGN PRESSURE OF 2,000 PSF. ALL FOUNDATION EXCAVATIONS SHALL BE EVALUATED BY THE TESTING AGENCY PRIOR TO POURING FOUNDATION CONCRETE.
2. TOP OF FOOTING ELEVATION SHALL BE AS SHOWN ON THE DRAWINGS. IF UNSUITABLE MATERIALS ARE ENCOUNTERED AT THE BASE OF A FOUNDATION EXCAVATION, IT WILL BE NECESSARY TO LOWER THE BASE OF FOOTING THROUGH THE UNSUITABLE MATERIALS OR TO UNDERCUT THE UNSUITABLE SOILS AND TO RESTORE ORIGINAL BEARING LEVELS BY REPLACING ENGINEERED FILL MATERIALS, OR LEAN CONCRETE.
3. ALL FOUNDATION CONCRETE SHALL OBTAIN A 28-DAY COMPRESSIVE STRENGTH OF <u>3,500 PSI</u>. ALL CONCRETE TO BE PERMANENTLY EXPOSED TO WEATHER SHALL BE AIR ENTRAINED TO 5% (± 1%) WITH AN ADMIXTURE THAT CONFORMS TO ASTM C260.
4. ALL FOUNDATION CONCRETE WORK SHALL CONFIRM TO THE REQUIREMENTS FOR CAST-IN-PLACE CONCRETE GIVEN IN NOTES ON THIS SHEET.
5. NO UNBALANCED BACKFILLING SHALL BE DONE AGAINST FOUNDATION WALLS UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING BY TEMPORARY BRACING.
6. UNLESS OTHERWISE NOTED, THE FOLLOWING MINIMUM COVER SHALL BE PROVIDED FOR REINFORCEMENT:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH - 3"
   B. CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 THROUGH #18 BARS - 2"
   #5 BAR, W31 OR D31 WIRE, AND SMALLER - 1-1/2"
7. WHEN A CONSTRUCTION JOINT IS REQUIRED IN WALL FOOTINGS, THE FOOTING SHALL TERMINATE AT A BULKHEAD WITH A 2"x4" CONTINUOUS HORIZONTAL KEY FORMED AT MID-DEPTH OF THE FOOTING. THE CONTINUOUS REINFORCING SHALL EXTEND 2'-0" MINIMUM BEYOND THE BULKHEAD.
8. PRIOR TO COMMENCING ANY FOUNDATION WORK, COORDINATE WORK WITH ANY EXISTING UTILITIES. FOUNDATIONS SHALL BE LOWERED WHERE REQUIRED TO AVOID UTILITIES.
9. UNLESS OTHERWISE NOTED, THE CENTERLINES OF COLUMN FOUNDATIONS SHALL BE LOCATED ON COLUMN CENTERLINES.

SLAB ON GRADE NOTES:

1. PROVIDE 6" CONCRETE SLABS REINFORCED WITH 6x6-W2.9xW2.9 W.W.F. OVER A 10 MIL POLYETHYLENE VAPOR BARRIER AND 4" OF POROUS FILL. CONCRETE SHALL BE <u>3,500 PSI</u> MIX. MAXIMUM SLUMP FOR ALL SLABS SHALL BE 5 INCHES, USING TYPE II CEMENT. MAXIMUM W/C RATIO SHALL BE .50.
2. ALL WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH ASTM A185. FURNISH IN FLAT SHEETS AND LAP ADJOINING PIECES AT LEAST ONE FULL MESH.
3. ALL POROUS FILL MATERIAL SHALL CONSIST OF 3/4" STONE WITH NO FINES.
4. SLAB JOINTS SHALL BE FILLED WITH APPROVED MATERIAL. THIS SHOULD TAKE PLACE AS LATE AS POSSIBLE, PREFERABLY 4 TO 6 WEEKS AFTER THE SLAB HAS BEEN CAST. PRIOR TO FILLING, REMOVE ALL DEBRIS FROM THE SLAB JOINTS.
5. UNLESS OTHERWISE APPROVED, ALL WELDED WIRE FABRIC SHALL BE BLOCKED INTO THE POSITION INDICATED WITH PRECAST CONCRETE BLOCKS HAVING A COMPRESSIVE STRENGTH EQUAL TO THAT OF THE SLAB (3,500 PSI).
6. WALKWAYS AND OTHER EXTERIOR SLABS ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS. SEE THE SITE PLAN FOR LOCATIONS, DIMENSIONS, ELEVATIONS, JOINTING DETAILS AND FINISH DETAILS.
7. SLABS TO BE PERMANENTLY EXPOSED TO WEATHER SHALL BE AIR ENTRAINED TO 5% (± 1%) WITH AN ADMIXTURE THAT CONFORMS TO ASTM C260.
8. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS FOR CAST-IN-PLACE CONCRETE GIVEN IN NOTES ON THIS SHEET.
9. THE USE OF POLYPROPYLENE FIBERS (IN LIEU OF WELDED WIRE FABRIC) IS PROHIBITED.
10. SEE THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DEPRESSED SLAB AREAS AND DRAINS. SLOPE SLAB TO DRAINS WHERE SHOWN.
11. THE FINISH TOLERANCE OF ALL SLABS SHALL BE IN ACCORDANCE WITH ACI 301, CLASS A.

CAST-IN-PLACE CONCRETE NOTES:

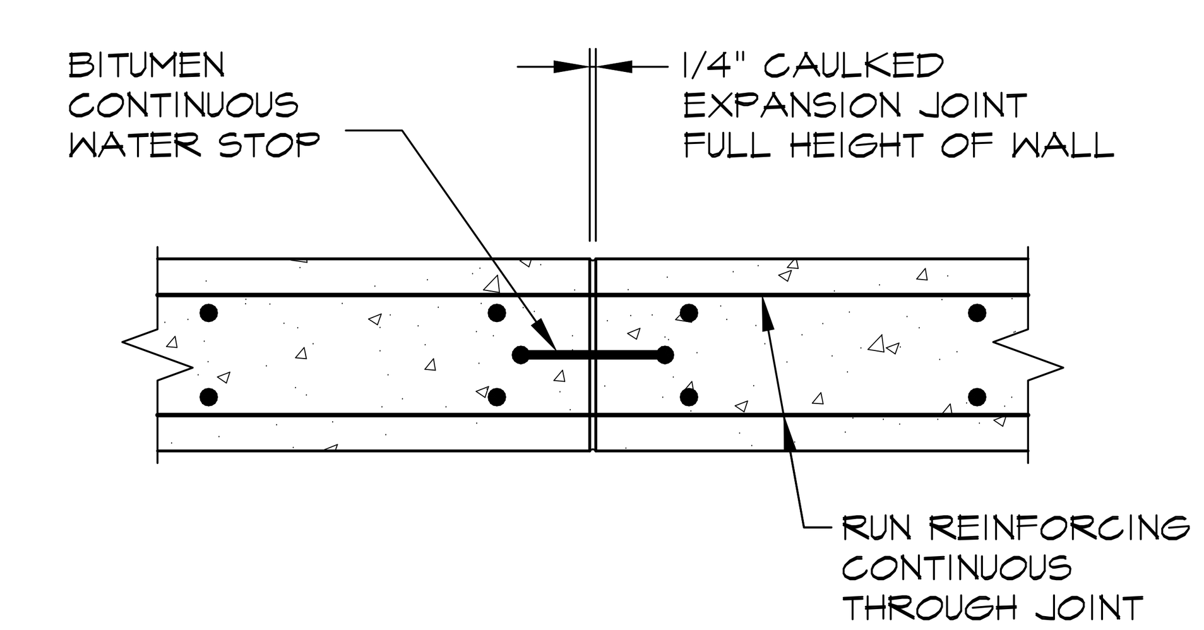
1. CONCRETE MIXES SHALL BE DESIGNED PER ACI 301, USING PORTLAND CEMENT CONFORMING TO ASTM C 150 OR C 595, AGGREGATE CONFORMING TO ASTM C 33, AND ADMIXTURES CONFORMING TO ASTM C 260, C494, C 618, C 989 AND C 1017. ASTM C 94. CONCRETE SHALL CONFORM TO THE FOLLOWING COMPRESSIVE STRENGTH, WEIGHT AND AIR ENTRAINMENT REQUIREMENTS:

CONCRETE	MIN. f'c (28 DAYS)
FOUNDATION	SEE FOUNDATION NOTES
SLABS ON GRADE	SEE SLAB ON GRADE NOTES

2. WALL CONCRETE SHALL CONTAIN 480 LBS OF CEMENT AND 120 LBS OF FLY ASH PER CUBIC YARD WITH A MAXIMUM WATER TO CEMENT RATIO W/C = 0.42 WITH A MAXIMUM SLUMP 2.0 - 4.0". FOOTING CONCRETE SHALL OBTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI.
3. FOR CONCRETE WALLS, PROVIDE SIKA WATERTIGHT CONCRETE POWDER (PERMEABILITY REDUCING ADMIXTURE) AT A RATE OF 2.95 LBS/CY.
4. FOR CONCRETE WALLS PROVIDE A HIGH RANGE WATER REDUCING AND SUPERPLASTICIZING ADMIXTURE SUCH AS SIKA VISCOCRETE 2100 AS NEEDED FROM 5-12oz./100 LBS OF CEMENTITIOUS MATERIAL USED.
5. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE BUILDINGS". HOT WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 305. COLD WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 306.
6. CONCRETE WALLS SHALL BE AIR ENTRAINED TO 5% (± 1%) WITH AN ADMIXTURE THAT CONFORMS TO ASTM C 260.
7. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
8. WALL REINFORCING MARKED CONTINUOUS (CONT.) ON THE PLANS AND DETAILS SHALL BE LAPPED 40 X BAR DIAMETERS AT SPLICES UNLESS OTHERWISE NOTED.
9. ALL REINFORCING STEEL SHALL BE SET AND TIED IN PLACE PRIOR TO POURING OF CONCRETE. DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED OR APPROVED BY THE ENGINEER.
10. REINFORCING STEEL, INCLUDING HOOKS AND BENDS SHALL BE DETAILED IN ACCORDANCE WITH ACI 315.
11. ALL REINFORCING SHALL BE LAPPED AS INDICATED BELOW AT SPLICES AND CORNERS.

BAR SIZE	#4	#5	#6	#7	#8	#9	#10
LAP (BOT. BARS)	17"	21"	25"	32"	42"	53"	67"
LAP (TOP BARS)	22"	27"	33"	42"	55"	69"	87"

12. UNLESS OTHERWISE NOTED, THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
    A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:
    ALL BARS -3"
    B. CONCRETE EXPOSED TO EARTH OR WEATHER:
    #6 THROUGH # 18 BARS - 2"
    C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
    SLABS - 3/4"
    D. FOUNDATION CONCRETE (SEE "FOUNDATION NOTES")
13. BAR SUPPORTS AND HOLDING BARS SHALL BE PROVIDED FOR ALL REINFORCING STEEL TO INSURE MINIMUM CONCRETE COVER. BAR SUPPORTS SHALL BE PLASTIC TIPPED OR STAINLESS STEEL.
14. NO CONCRETE SHALL BE PLACED UNTIL ALL EMBEDDED WORK HAS BEEN INSTALLED AND INSPECTED.
15. ALL EDGES OF PERMANENTLY EXPOSED CONCRETE SURFACES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
16. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH DOCUMENTATION THAT ALL MATERIALS CONFORM TO QUALITY STANDARDS SPECIFIED IN 2009 INTERNATIONAL BUILDING CODE.
17. PROVIDE 1/4" WIDE x 1/2" DEEP V GROOVE VERTICALLY INTO THE EXTERIOR FACE OF THE WALL FROM THE FOOTINGS TO THE TOP OF WALL. THE V GROOVE SHALL BE SPACED AT A MAXIMUM 20'-0" ON CENTER.
18. ARCHITECTURAL NOTES FOR CONCRETE WALL FORM LINERS BY SCOTT SYSTEM 166A CHISELED LIMESTONE (FOR THE LIGHT TEXTURE) AND 166B 1 1/4" CHISELED LIMESTONE (FOR THE HEAVY TEXTURE). FORM LINERS SHALL BE ELASTOMERIC, HIGH DEFINITION TYPE. CONTRACTOR SHALL PROVIDE ONE 24"x36" MOCKUP UTILIZING FINAL MATERIALS AND LINERS TO EXHIBIT FINAL TEXTURE AND FINISH FOR ARCHITECT'S REVIEW.
19. ARCHITECTURAL NOTES FOR CONCRETE WALL COLORING BY COLORFLO BY SOLOMON COLORS, INC.
    A. COLOR HARDENER AND CURING COMPOUND SHALL BE MANUFACTURED AND SUPPLIED BY THE BOMANITE CORPORATION, 81 ENCINA AVENUE, PALO ALTO, CA 94301; TEL. 800-854-2094, OR APPROVED EQUAL.
       1. COLOR FOR CONCRETE SHALL HAVE VISUAL CONTRAST WITH SURROUNDING PAVEMENT.
       2. CURING COMPOUND SHALL BE LIQUID APPLIED.
    B. SURFACE SEALER SHALL BE NON-YELLOWING TYPE WHICH BREATHES WATER VAPOR, AS MANUFACTURED BY PROSOCO, SIKA CHEMICAL CORPORATION, DURAL-INTERNATIONAL CORPORATION, OR APPROVED EQUAL.



TOP VIEW

TYPICAL WALL CONSTRUCTION JOINT DETAIL

NOT TO SCALE

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GENERAL NOTES

749 BOUSH STREET

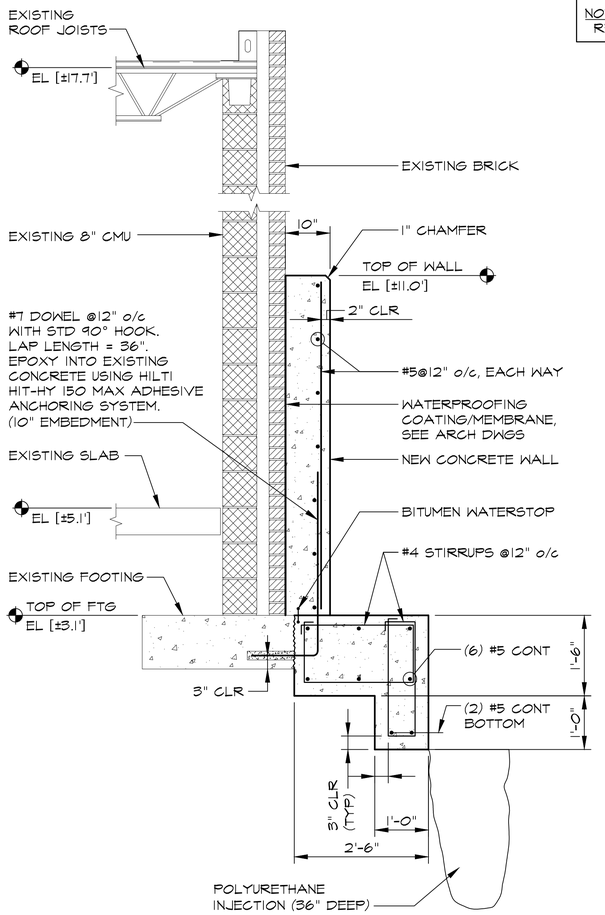
FLOOD MITIGATION

BASE FLOOD ELEVATION
BFE = 7.6'

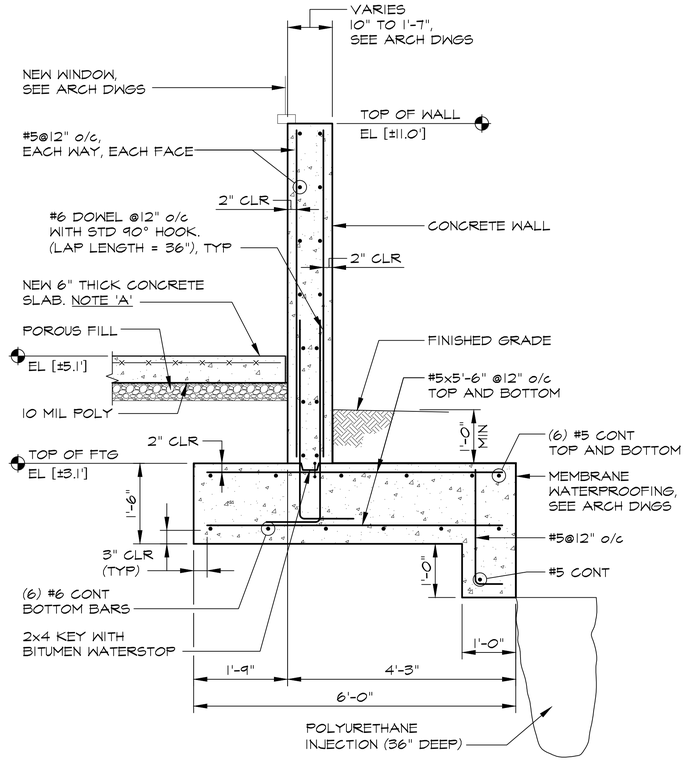
NOTE 'A':
EPOXY #5@16" o/c INTO EXISTING CONCRETE SLAB AT MID-HEIGHT USING HILTI HIT-HY 150 MAX ADHESIVE ANCHORING SYSTEM. (3" MINIMUM EMBEDMENT.)

NOTE 'B':
EPOXY #6@12" o/c INTO EXISTING CONCRETE FOOTING USING HILTI HIT-HY 150 MAX ADHESIVE ANCHORING SYSTEM. (6" MINIMUM EMBEDMENT.)

NOTE 'C':
REMOVE EXISTING FOOTING. INSTALL NEW FOOTING.



SECTION 1/S1.1
NOT TO SCALE



SECTION 2/S1.1
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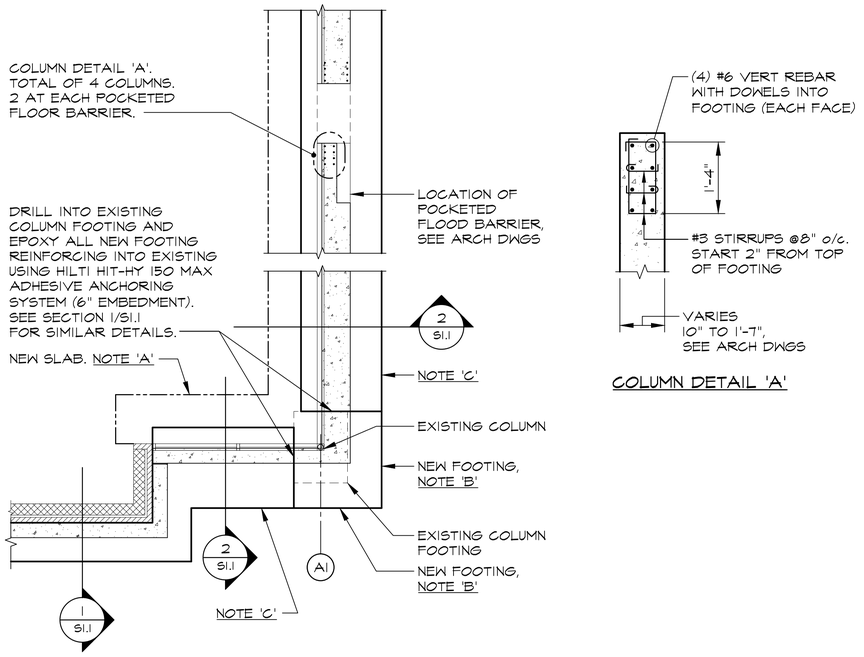
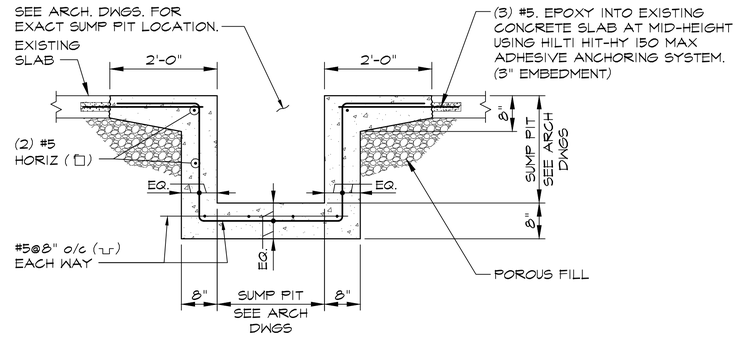
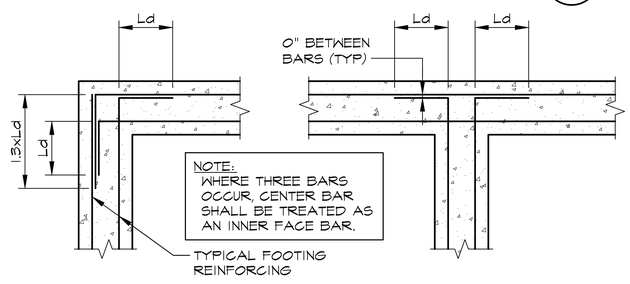


COLUMN DETAIL 'A'

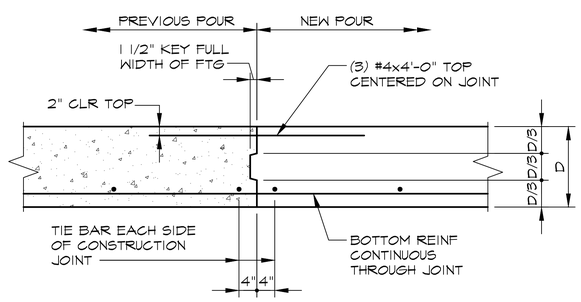
TIE IN AT BUILDING CORNER FOOTING
NOT TO SCALE



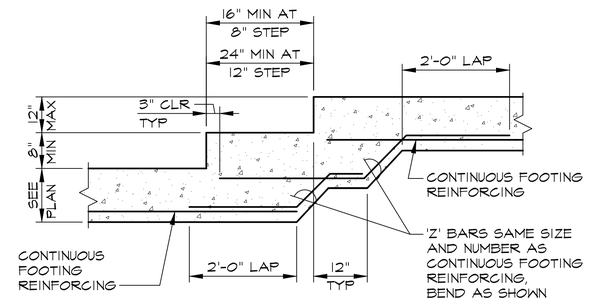
TYPICAL SUMP PIT DETAIL
NOT TO SCALE



TYPICAL CONTINUOUS WALL FOOTING REINFORCING DETAILS
NOT TO SCALE



TYPICAL CONCRETE FOOTING CONSTRUCTION JOINT DETAIL
NOT TO SCALE



TYPICAL STEPPED FOOTING DETAIL
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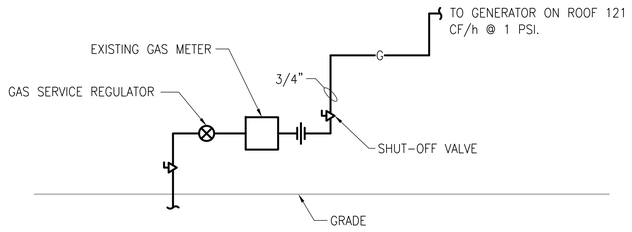
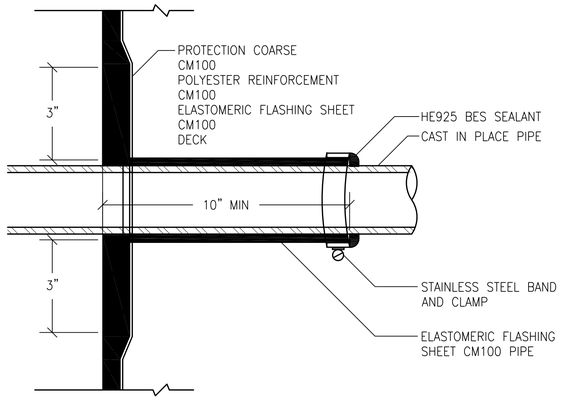
SECTIONS AND DETAILS

749 BOUSH STREET
FLOOD MITIGATION



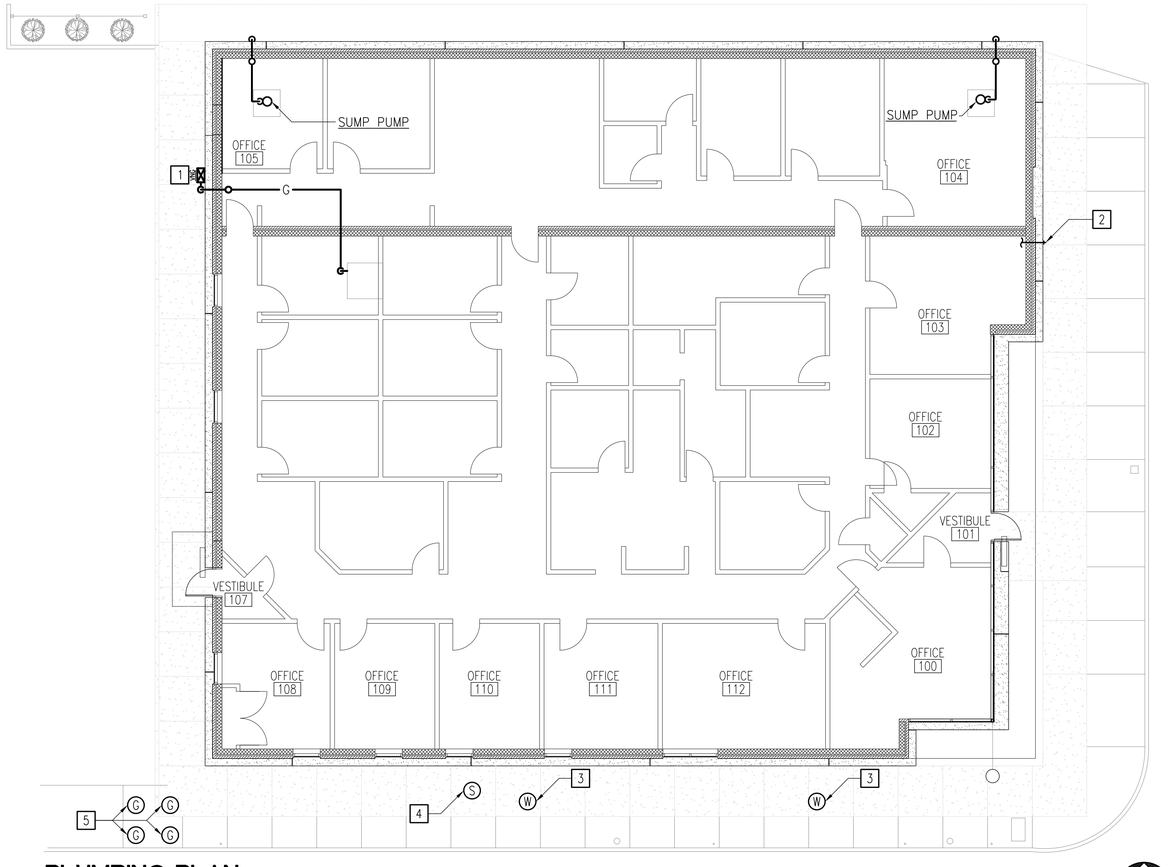
GAS PIPING DIAGRAM

NOT TO SCALE



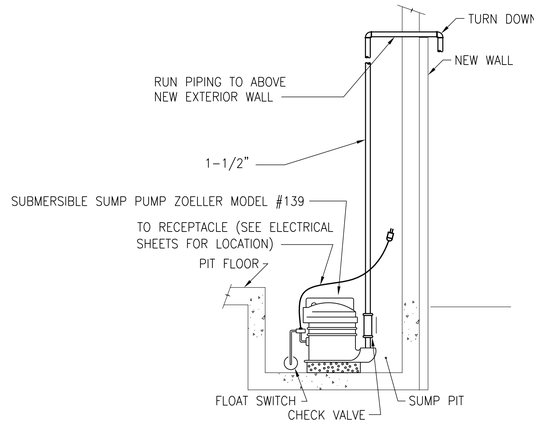
WATERPROOFING DETAIL

NO SCALE



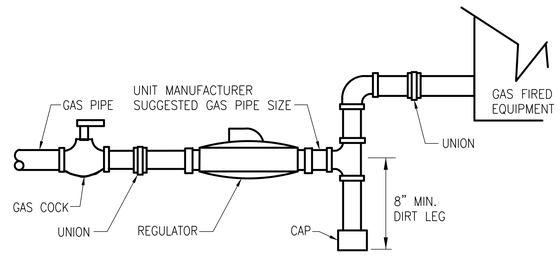
PLUMBING PLAN

SCALE: 1/8" = 1'-0"



SUMP PUMP DETAIL

NOT TO SCALE



GAS PIPING EQUIPMENT CONNECTION DETAIL

NOT TO SCALE

1/8" = 1'-0" 10' 5' 0 10' 20'

LEGEND

———	STORM DRAIN PIPE
——o———	PIPE TURN UP
——•———	PIPE TURN DOWN
——G———	GAS PIPE
⊗	EXISTING PRESSURE REDUCING VALVE
———||———	UNION
———▷◁———	GAS SHUT-OFF VALVE
CF/h	CUBIC FEET/HOUR GAS REQ.

NOTES THIS SHEET

1. RELOCATE EXISTING VIRGINIA NATURAL GAS METER AND TWO PROTECTIVE BOLLARDS TO ALLOW FOR INSTALLATION OF NEW WALL. COORDINATE RELOCATION WITH THE GAS COMPANY. NEW GAS SERVICE SHALL BE RUN UP NEW EXTERIOR WALL AND ENTER THE BUILDING ABOVE THE NEW WALL.
2. REMOVE HOSE BIB AND CAP EXISTING WATER LINE INSIDE THE BUILDING. FILL REMAINING HOLE WITH WATERPROOF SEALANT.
3. EXISTING WATER METER. CAREFULLY EXCAVATE AROUND WATER METER. PROVIDE WATERPROOFING AT SERVICE ENTRANCE PIPE. SEE PIPE WATERPROOFING DETAIL.
4. EXISTING SANITARY CLEAN-OUT. CAREFULLY EXCAVATE AROUND CLEAN-OUT. PROVIDE WATERPROOFING AT SERVICE ENTRANCE PIPE. SEE PIPE WATERPROOFING DETAIL.
5. EXISTING GAS TEST POINTS. CAREFULLY EXCAVATE AROUND TEST POINTS.

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PLUMBING PLAN

749 BOUSH STREET

FLOOD MITIGATION

PLUMBING SPECIFICATIONS

GENERAL CONDITIONS

WORK UNDER THIS DIVISION SHALL BE SUBJECT TO THE ARCHITECTURAL GENERAL AND SPECIAL CONDITIONS.

SCOPE

THE WORK REQUIRED FOR THIS SECTION INCLUDES LABOR, MATERIALS, EQUIPMENT, APPURTENANCES, SERVICE AND SUPERVISION REQUIRED TO PROVIDE COMPLETE PLUMBING SYSTEMS AS SHOWN ON THE DRAWINGS AND SPECIFIED IN THIS SECTION OF THE SPECIFICATIONS, INCLUDING CONNECTIONS TO SITE UTILITIES FIVE FEET EXTERIOR TO THE FOUNDATION. SEE SITE ENGINEERS PLANS FOR LOCATIONS OF SERVICES.

SPECIFICATIONS, CODES AND STANDARDS

THE FOLLOWING PUBLICATIONS FORM A PART OF THESE SPECIFICATIONS.
APPLICABLE ORDINANCES OF LOCAL GOVERNING AGENCIES.
INTERNATIONAL PLUMBING CODE.
CITY PLUMBING OFFICIAL.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
UNDERWRITER'S LABORATORIES, INC. (UL).
NATIONAL ELECTRICAL CODE (NEC).

CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND PAY REQUIRED FEES FOR WORK INDICATED.

DRAWINGS

THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT OF THE WORK. MINOR VARIATIONS IN LOCATION OF EQUIPMENT SHALL BE MADE UPON WRITTEN APPROVAL OF THE ARCHITECT AT NO ADDITIONAL CHARGE.

MATERIALS AND EQUIPMENT

COOPERATE AND COORDINATE THE WORK OF THIS DIVISION WITH OTHER TRADES.

MATERIALS AND EQUIPMENT SHALL BE NEW AND FREE OF SCRATCHES OR ANY OTHER IMPERFECTIONS.

MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S DETAILED INSTRUCTIONS.

MATERIALS AND EQUIPMENT SHALL BE PROPERLY STORED AND PROTECTED AT THE PROJECT SITE.

SHOP DRAWINGS

SIX COMPLETE SCHEDULES OF MATERIALS AND EQUIPMENT PROPOSED FOR INSTALLATION SHALL BE SUBMITTED TO THE ARCHITECT WITHIN 30 DAYS AFTER AWARD OF CONTRACT.

SUBMITTALS THAT DO NOT BEAR THE CONTRACTOR'S STAMP OF APPROVAL THEREON WILL BE REJECTED WITHOUT REVIEW.

SUBSTITUTION OF MATERIAL AND EQUIPMENT

THE NAME OF A CERTAIN BRAND, MAKE MANUFACTURER OR DEFINITE SPECIFICATION IS TO DENOTE THE QUALITY STANDARD OF ARTICLE DESIRED. SUBSTITUTION OF ANY OTHER BRAND, MAKE, OR MANUFACTURER, WHICH IN THE OPINION OF THE ENGINEER IS RECOGNIZED THE EQUAL OF THAT SPECIFIED, MAY BE ACCEPTED.

RECORD DRAWINGS

UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL SUBMIT MARKED – UP DRAWINGS TO THE ARCHITECT.

ELECTRICAL WORK

POWER WIRING AND POWER CONNECTIONS TO EQUIPMENT SHALL BE PROVIDED UNDER "ELECTRICAL" UNLESS OTHERWISE INDICATED ON THE ELECTRICAL DRAWINGS.

WHEN SUBSTITUTED EQUIPMENT REQUIRES ELECTRICAL MODIFICATIONS, THE COST OF THE ELECTRICAL MODIFICATIONS SHALL BE INCLUDED UNDER SECTION PROVIDING THE EQUIPMENT.

ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE "ELECTRICAL" SECTION OF THIS SPECIFICATION.

CUTTING AND PATCHING

CUTTING, DRILLING AND CHANNELING REQUIRED FOR THIS WORK SHALL BE DONE UNDER THIS SECTION BY SKILLED MECHANICS OF THE TRADE INVOLVED.

PIPING

PIPING SHALL BE CONCEALED THROUGHOUT THE BUILDING EXCEPT WHERE SPECIFICALLY NOTED ON THE DRAWINGS.

PIPE HANGERS

HANGERS SHALL BE GRINNELL OR APPROVED EQUAL.

HANGER SPACING SHALL BE AS FOLLOWS:

ONE HALF INCH TO ONE INCH – MAXIMUM SPAN SEVEN FEET.
ONE AND ONE QUARTER INCHES TO TWO INCHES – MAXIMUM SPAN 10 FEET.

PIPING

SUMP PUMP PIPING SHALL BE SCHEDULE 40 BLACK STEEL, GAS PIPING EXTERIOR OF BUILDING SHALL BE SCHEDULE 40 TYPE E OR S, GRADE B GALVANIZED STEEL, SCHEDULE 40 TYPE E OR S BLACK, GRADE B STEEL INSIDE THE BUILDING. FITTINGS SHALL BE MALLEABLE – IRON FITTINGS, ASTME B16.3, CLASS 150. PRESSURE REGULATORS SHALL COMPLY ANSI Z21.80.

CAST IRON DWV PIPING SHALL BE HUB AND JOINT.

HANGERS SHALL BE SECURED TO THE STRUCTURE BY APPROVED MEANS. PROVIDE INTERMEDIATE SUPPORTS BETWEEN STRUCTURAL MEMBERS WHERE REQUIRED TO OBTAIN PROPER HANGER SPACING.

SLEEVES

SLEEVES SHALL BE INSTALLED WHERE PIPING PASSES THROUGH MASONRY CONSTRUCTION. SLEEVES SHALL BE METAL, SIZED TO ACCOMMODATE PIPING, AND SHALL BE SET IN PLACE AS CONSTRUCTION PROGRESSES. SET SLEEVES FLUSH WITH FINISHED SURFACES. FIRE WALL AND FIRE FLOOR PENETRATIONS SHALL BE SEALED WITH APPROVED FIRE STOP MATERIAL.

TESTS

PIPING SHALL BE TESTED AS REQUIRED BY THE CODE ENFORCING AUTHORITY.

THE ARCHITECT SHALL BE GIVEN A 48–HOUR NOTICE BEFORE TESTS ARE MADE. THE CONTRACTOR SHALL FURNISH THE ARCHITECT A CERTIFICATE OF APPROVAL FROM THE LOCAL INSPECTION AUTHORITY HAVING JURISDICTION.

WARRANTY

THIS CONTRACTOR SHALL FURNISH A WRITTEN WARRANTY, COUNTERSIGNED AND GUARANTEED BY THE GENERAL CONTRACTOR AGAINST DEFECTS OF EQUIPMENT, MATERIAL OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. DEFECTS DEVELOPING DURING THAT PERIOD SHALL BE CORRECTED WITHOUT COST TO THE OWNER.

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PLUMBING SPECIFICATIONS

749 BOUSH STREET
FLOOD MITIGATION

EXISTING PANELBOARD A SCHEDULE

200 AMP MCB, 208Y/120 VOLTS, 3 PH, 4 W, SOLID NEUTRAL, 22 KAIC, SURFACE MOUNTED

LOAD SERVED	LOAD (AMPS) A	B	C	BKR TRIP	WIRE SIZE	CKT NO	CKT NO	WIRE SIZE	BKR TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
				20		1	2		20				
B 9 10				20		3	4		20				OUTSIDE FLOOD LIGHTS
LUNCH				20		5	6		20				LUNCH
				20		7	8		20				A 4
B 11 12 13				20		9	10		20				RECEPT
MEETING ROOM				20		11	12		30				RANGE
COMP				20		13							
							16		20/20				A 3
				20		17	18		20				
				20		19	20		20				
				20		21	22		15				
MEETING ROOM				20		23	24		20				
B 1				20		25	26		20				
B 2				20		27	28		20				RECEPT
CONF				20		29	30		20/20				SERVER RM AC
RECEPT				20		31	32		20				TELEPHONE
MEN BATHROOM				20		33	34		20				NIGHT LIGHT
CONF ROOM				20		35	36		20				
OUTDOOR AC				30		37	38		20				
							40		20				
TIMECLOCK				20		41	42		15				EXIT
TOTAL													TOTAL
TOTAL CONNECTED AMPS				A:			B:			C:			

NOTE:

1. EXISTING PANEL IS AN ITE EQ LOAD CENTER.

EXISTING PANELBOARD B SCHEDULE

150 AMP MCB, 208Y/120 VOLTS, 3 PH, 4 W, SOLID NEUTRAL, 22 KAIC, SURFACE MOUNTED

LOAD SERVED	LOAD (AMPS) A	B	C	BKR TRIP	WIRE SIZE	CKT NO	CKT NO	WIRE SIZE	BKR TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
B 3				20/20		1	2		30				AC
BC/HALL COPIER				20/20		3							
COPIER/PAT S OFFICE				20/20		5							
B 7 8				2020		7	8		20				ALARM
AC UNIT				100		9	10		40				STRIP HEAT
RECEPT				20/20		15	16		40				AC
				20		17							
				20		19							
				20		21	22		20				E.L. WORLEY
				20		23	24		20				
DBC SERVER UNIT				20		25	26		20/20				
							28		20/20				
				20		27	28		20/20				
				20		29	30		20/20				
TOTAL													TOTAL
TOTAL CONNECTED AMPS				A:			B:			C:			

NOTE:

1. EXISTING PANEL IS AN ITE EQ LOAD CENTER.

NEW PANELBOARD B SCHEDULE

150 AMP MLCB 208Y/120 VOLTS, 3 PH, 4 W, SOLID NEUTRAL, 22 KAIC, SURFACE MOUNTED

LOAD SERVED	LOAD (AMPS) A	B	C	BKR TRIP	WIRE SIZE	CKT NO	CKT NO	WIRE SIZE	BKR TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
B 3				20/20		1	2		30				AC
BC/HALL COPIER				20/20		3							
COPIER/PAT S OFFICE				20/20		5							
B 7 8				2020		7	8		20				ALARM
AC UNIT				100		9	10		40				STRIP HEAT
RECEPT				20/20		15	16		40				AC
EXISTING LOAD				20		17							
EXISTING LOAD				20		19							
EXISTING LOAD				20		21	22		20				E.L. WORLEY
EXISTING LOAD				20		23	24		20				EXISTING LOAD
DBC SERVER UNIT				20		25	26		20/20				EXISTING LOAD
							28		20/20				EXISTING LOAD
EXISTING LOAD				20		29	30		20/20				EXISTING LOAD
SPARE				20		31	32		20				SPARE
SPARE				20		33	34		20				SPARE
SPARE				20		35	36		20				SPARE
SPARE				20		37	38	*	50				NEW LOADCENTER E
SPARE				20		39							
SPARE				20		41							
TOTAL													TOTAL
TOTAL CONNECTED AMPS				A:			B:			C:			

NOTE:

* INDICATES WIRING PRE-WIRED WITH AUTOMATIC TRANSFER SWITCH.

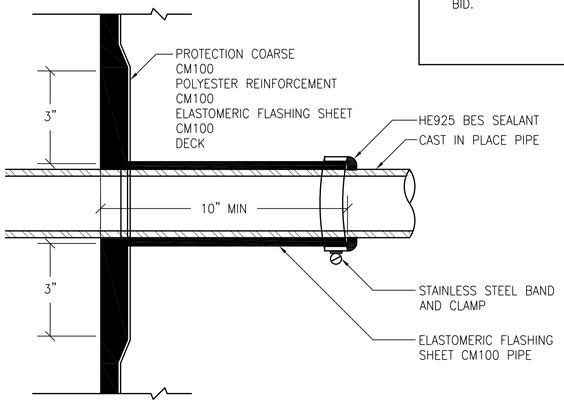
PANEL E SCHEDULE

30A MLO, 240/120V, 1 PHASE, 3W, SOLID NEUTRAL, GROUND BUS, 22 KAIC, SURFACE MOUNTED

LOAD SERVED	LOAD (AMPS) A	B	BKR TRIP	WIRE SIZE	CKT NO	CKT NO	WIRE SIZE	BKR TRIP	LOAD (AMPS) A	B	LOAD SERVED
SUMP PUMP	10.0		20	12	1	2		20			SPARE
SPARE			20		3	4	12	20		10.0	SUMP PUMP
LIGHTS			20	12	5	6	12	20			LIGHTS
LIGHTS			20	12	7	8	12	20			LIGHTS
LIGHTS			20	12	9	10		20			SPARE
SPARE			20		11	12		20			SPARE
TOTAL	10.0	0.0							0.0	10.0	TOTAL
TOTAL CONNECTED AMPS	A 10.0	B: 10.0									

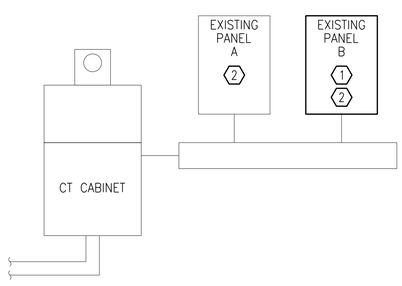
GENERAL DEMOLITION NOTES

1. ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE THE SITE PRIOR TO CONSTRUCTION TO ASCERTAIN THE EXISTING CONDITIONS AND LIMITS OF DEMOLITION AND CONSTRUCTION.
2. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROTECT AND RETAIN POWER TO ALL EXISTING ACTIVE EQUIPMENT WHICH SHALL REMAIN.
3. DISCONNECT, REMOVE, OR RELOCATE ALL ELECTRICAL MATERIAL AND EQUIPMENT THAT INTERFERES WITH NEW INSTALLATION. THIS INCLUDES, BUT IS NOT LIMITED TO CONDUITS, PANELS, LIGHTING FIXTURES, WIRING DEVICES, SIGNAL EQUIPMENT, EXHAUST FANS, BASEBOARD HEATERS, UNIT HEATERS, ETC. REMOVE ALL CONDUIT AND WIRING OF INACTIVE CIRCUITS COMPLETE BACK TO THEIR ORIGIN AT THE ASSOCIATED PANELBOARD.
4. REMOVE ALL CONDUIT, WIRE, BOXES, AND FASTENING DEVICES AS REQUIRED TO AVOID ANY INTERFERENCE WITH NEW INSTALLATION. REMOVE ALL CONDUIT AND WIRING OF INACTIVE CIRCUITS COMPLETE BACK TO THEIR ORIGIN AT THE ASSOCIATED PANELBOARD. CONDUITS MAY BE ABANDONED IN FLOOR ONLY. REMOVE ALL WIRING FROM ABANDONED CONDUITS AND PROVIDE STAINLESS STEEL BLANK PLATES ON ALL ABANDONED OUTLETS. CUT OFF ABANDONED CONDUITS 1" BELOW FINISHED FLOOR AND GROUT FLUSH.
5. ELECTRICAL CONTRACTOR SHALL RECONNECT ANY EQUIPMENT BEING DISTURBED BY THE RENOVATION YET REQUIRED FOR CONTINUED SERVICE.
6. ELECTRICAL CONTRACTOR SHALL RING OUT ALL CIRCUITS IN EXISTING PANELS AFFECTED BY THIS ALTERATION. TAG ALL UNUSED CIRCUIT BREAKERS AS "SPARE." REPLACE ALL INOPERATIVE OR DEFECTIVE CIRCUIT BREAKERS, AND TIGHTEN ALL CONNECTIONS, PROVIDE NEW TYPE DIRECTORY PROTECTED BY PLASTIC AND PLACE IN COVER OF PANELS CONSISTENT WITH COMPLETED CONSTRUCTION.
7. COORDINATE WORK SCHEDULE IN EXISTING BUILDING WITH OWNER'S REPRESENTATIVE.
8. ANY ELECTRICAL OUTAGES REQUIRED BY THE WORK SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE AND CONFIRMED IN WRITING TEN DAYS PRIOR TO THE OUTAGE. ANY OUTAGE SHALL NOT BE SCHEDULED DURING NORMAL BUSINESS HOURS AND ALL COSTS FOR OVERTIME SHALL BE INCLUDED IN THE BID.
9. INTERNET CONNECTION MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. ANY OUTAGE SHALL NOT BE SCHEDULED DURING NORMAL BUSINESS HOURS AND ALL COSTS FOR OVERTIME SHALL BE INCLUDED IN THE BID.



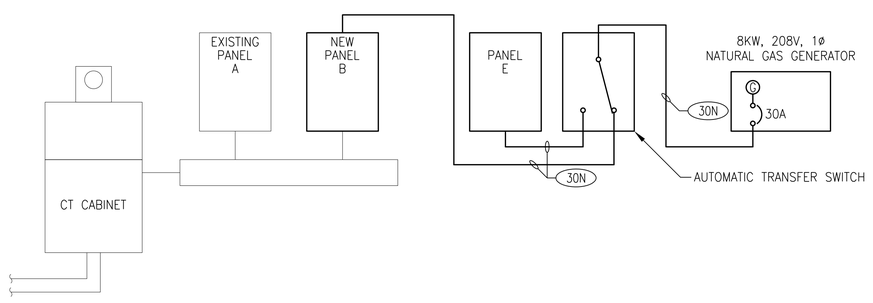
WATERPROOFING DETAIL

NO SCALE



POWER RISER DIAGRAM - DEMOLITION

NO SCALE



POWER RISER DIAGRAM - NEW WORK

NO SCALE

ELECTRICAL LEGEND

- DUPLEX GROUND FAULT TYPE RECEPTACLE, 20A, 125 VOLT, NEMA 5-20R, 18" AFF, UON.
- PANELBOARD, 208/120 VOLT, 3 PHASE, 4 WIRE, SOLID NEUTRAL.
- BRANCH CIRCUITS CONDUCTORS IN CONDUIT, RUN CONCEALED IN WALLS UNDERGROUND AND ABOVE CEILING EXCEPT IN EXPOSED CONSTRUCTION AREAS. TICK MARKS INDICATE NUMBER OF PHASE AND NEUTRAL CONDUCTORS IF OTHER THAN TWO. GROUND CONDUCTOR IS INDICATED AS (7). REFER TO PANELBOARD SCHEDULES FOR CONDUCTOR SIZES.
- E-2 HOMERUN TO PANELBOARD, PANELBOARD AND CIRCUIT DESIGNATION AS INDICATED.
- (J) JUNCTION BOX.
- (E) EQUIPMENT CONNECTION.
- 3P 60/40 3R DISCONNECT SWITCH, 240 OR 600 VOLTS AS REQUIRED, AMPS AND POLES, FUSING AS NOTED. 3P = NUMBER OF POLES, 60 = SWITCH AMPERE RATING, 40 = FUSE AMPERE RATING (NF = NON-FUSED), 3R = ENCLOSURE NEMA RATING IF OTHER THAN NEMA 1.

LINE WEIGHT LEGEND

- INDICATES EXISTING TO BE DEMOLISHED
- INDICATES EXISTING TO REMAIN
- INDICATES NEW WORK

ABBREVIATIONS

ø	PHASE	KCMIL	THOUSANDS CIRCULAR MILS
A	AMPERES	KW	KILO-WATTS
AFF	ABOVE FINISHED FLOOR	MCB	MAIN CIRCUIT BREAKER
AFG	ABOVE FINISHED GRADE	MLO	MAIN LUGS ONLY
BFG	BELOW FINISHED GRADE	NEC	NATIONAL ELECTRIC CODE
BKR	BREAKER	NO	NUMBER
CFL	COMPACT FLUORESCENT	RCPT	RECEPTACLE
C	CONDUIT	SN	SOLID NEUTRAL
CKT	CIRCUIT	UON	UNLESS OTHERWISE NOTED
EC	EMPTY CONDUIT	V	VOLTS
GND	GROUND	W	WIRES
KAIC	KILO-AMPS INTERRUPTING CAPACITY		

NOTES THIS SHEET

1. REMOVE EXISTING PANEL B. CIRCUITING TO REMAIN FOR CONNECTION OF NEW PANEL IN EXISTING LOCATION.
2. LOCATE ALL LIGHTING CIRCUITS IN PANEL. DISCONNECT THE CIRCUITS FROM EXISTING PANEL AND RELOCATE TO NEW PANEL E. RE-LABEL CIRCUIT BREAKER AS SPARE.

NOTES THIS SHEET

1. NEW PANEL B IN EXISTING LOCATION. EXTEND AND REWORK CIRCUITING AS NECESSARY.

FEEDER SCHEDULE

FEEDER NUMBER	CONDUIT NO.	CONDUIT SIZE	WIRE NUMBER & SIZE PER CONDUIT	NOTES
30N	1	3/4"	THREE #10, ONE #10 GROUND	

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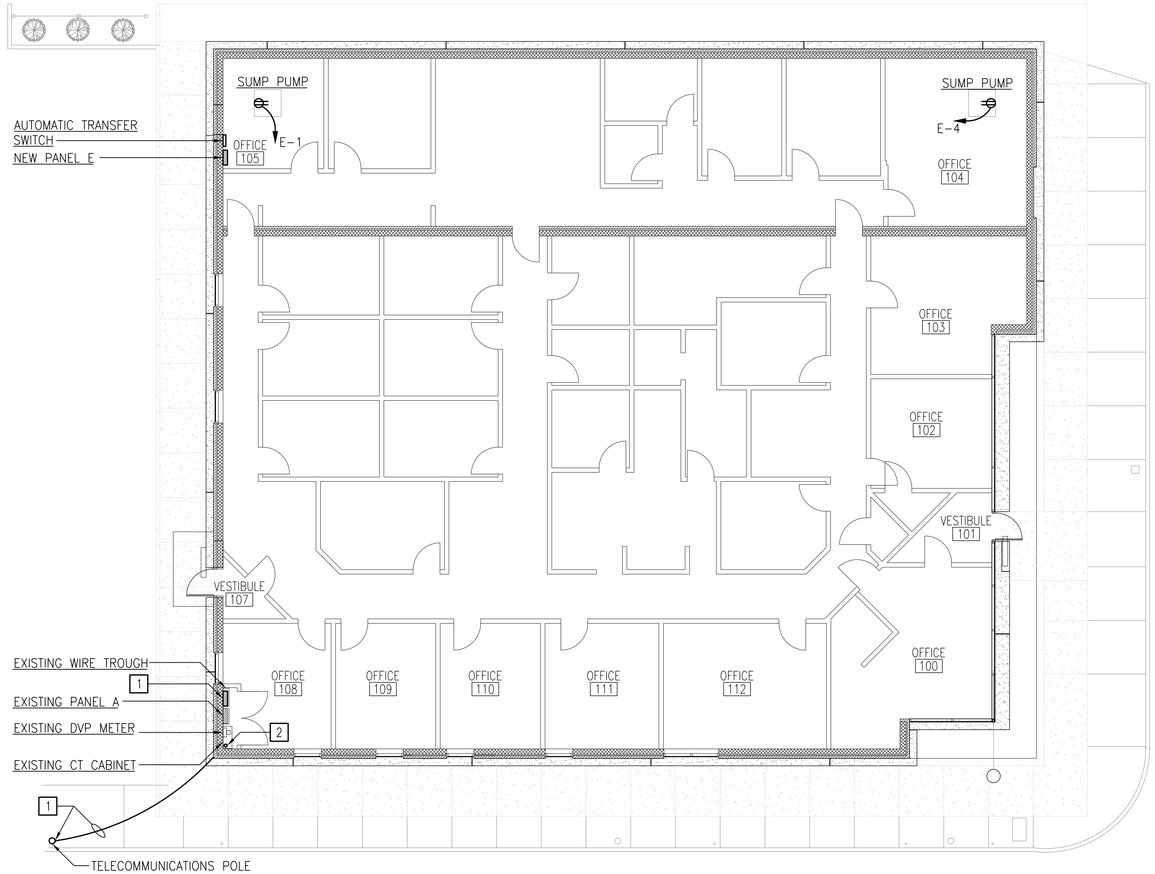
ELECTRICAL LEGNED, RISERS AND SCHEDULES

749 BOUSH STREET

FLOOD MITIGATION

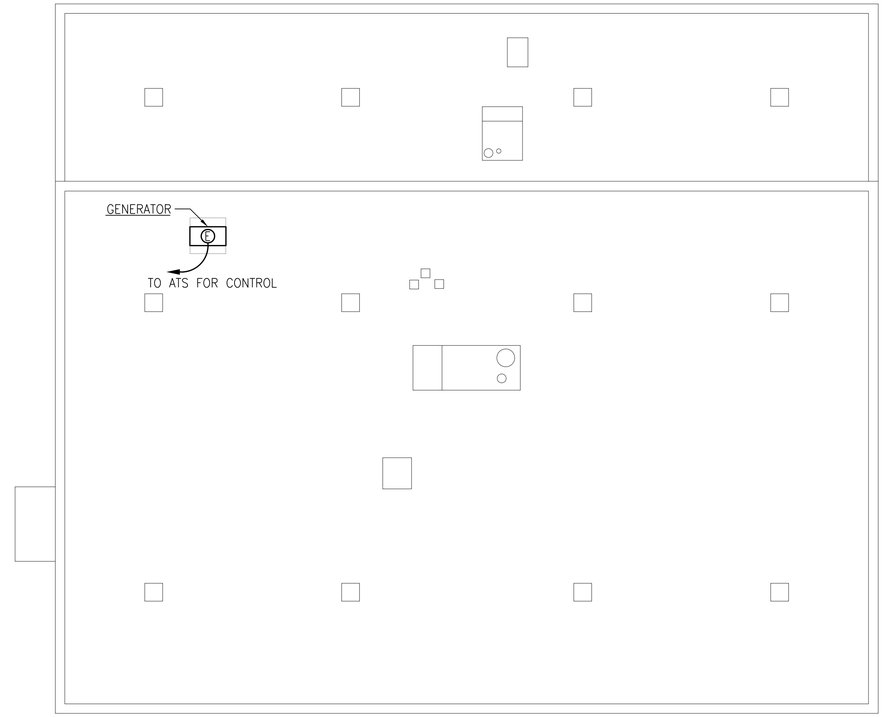
NOTES THIS SHEET

1. RE-ROUTE EXISTING TELECOMMUNICATIONS SERVICE FEEDER. NEW FEEDER SHALL BE RUN OVERHEAD AND INTO THE BUILDING ABOVE THE NEW WALL. COORDINATE RELOCATION OF THE FEEDER WITH THE TELECOMMUNICATIONS COMPANY.
2. EXISTING ELECTRICAL SERVICE COMING INTO THE BUILDING FROM UNDERGROUND. CAREFULLY EXCAVATE AROUND CONDUITS. PROVIDE WATERPROOFING AT SERVICE ENTRANCE CONDUIT. SEE WATERPROOFING DETAIL, SHEET E0.1.



ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"



ELECTRICAL ROOF PLAN

SCALE: 1/8" = 1'-0"

1/8" = 1'-0" 10' 5' 0 10' 20'

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ELECTRICAL PLAN

749 BOUSH STREET

FLOOD MITIGATION

ELECTRICAL SPECIFICATIONS

SECTION 16010 – ELECTRICAL

PART 1 – GENERAL

1.01 GENERAL CONDITIONS

A. WORK UNDER THIS DIVISION SHALL BE SUBJECT TO THE GENERAL AND SPECIAL CONDITIONS AND, TOGETHER WITH THIS DIVISION, ARE A PART OF THE CONTRACT.

1.02 SCOPE

A. THE WORK REQUIRED FOR THIS DIVISION INCLUDES LABOR, MATERIALS, EQUIPMENT, APPURTENANCES AND SERVICE TO PROVIDE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED IN THESE SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE ALL MINOR ITEMS WHICH ARE OBVIOUSLY AND REASONABLY NECESSARY FOR COMPLETION OF THE PROJECT. THE TERMS "CONTRACTOR" OR "ELECTRICAL CONTRACTOR" AS USED IN THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS SHALL REFER TO THE CONTRACTOR PROVIDING ELECTRICAL INSTALLATIONS UNDER THIS CONTRACT. THE ENTIRE INSTALLATION SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST–CLASS WORKMANLIKE MANNER. THE CONTRACTOR SHALL BE A LICENSED MASTER ELECTRICIAN IN THE COMMONWEALTH OF VIRGINIA AND SHALL HOLD A CLASS OF LICENSE THAT IS APPROVED BY THE COMMONWEALTH FOR THIS SIZED PROJECT.

1.03 APPLICABLE SPECIFICATIONS, CODES AND STANDARDS

A. THE LATEST EFFECTIVE PUBLICATIONS OF THE FOLLOWING STANDARDS, CODES, ETC., AS APPLICABLE FORM A PART OF THESE SPECIFICATIONS THE SAME AS IF WRITTEN FULLY HEREIN AND SHALL BE FOLLOWED AS MINIMUM REQUIREMENTS. MINIMUM REQUIREMENTS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF FURNISHING AND INSTALLING HIGHER GRADE MATERIALS AND WORKMANSHIP THAN THEREIN SPECIFIED.

1. NATIONAL ELECTRICAL CODE
2. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
3. UNDERWRITER'S LABORATORY (UL)
4. OSHA REQUIREMENTS
5. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA)
6. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
7. VIRGINIA UNIFORM STATEWIDE BUILDING CODE
8. APPLICABLE LOCAL/CITY/STATE CODES

IN ADDITION, THE NATIONAL ELECTRICAL CODE TOGETHER WITH APPLICABLE STATE AND CITY ORDINANCES OR REGULATIONS SHALL BE CONSIDERED AS ESTABLISHING THE MINIMUM REQUIREMENTS FOR THE WORK UNDER THIS CONTRACT. CONTRACTOR SHALL ASCERTAIN THE EXISTENCE OF AND COMPLIANCE WITH ANY INTERPRETATIONS AND/OR ENFORCEMENT POLICIES OF THE LOCAL ENFORCEMENT AGENCIES OR INDIVIDUALS PECULIAR TO THIS AREA OR TO THIS PARTICULAR INSTALLATION. WHERE THESE REQUIREMENTS CALL FOR MATERIALS OR CONSTRUCTION OF BETTER/SUPERIOR QUALITY OR LARGER SIZE/CAPACITY THAN REQUIRED BY THE ABOVE RULES AND REGULATIONS, THE PROVISIONS OF THESE REQUIREMENTS SHALL TAKE PRECEDENCE. ANY MODIFICATIONS TO THE CONTRACT WORK REQUIRED BY SUCH AUTHORITIES SHALL BE AT THE EXPENSE OF THE OWNER, SUBJECT TO THE RECEIPT OF AN AFFIDAVIT OR LETTER FROM THE GOVERNING BODY AND OWNER'S PRIOR APPROVAL OF ANY ADDITIONAL COST TO BE INCURRED. ALL PERMITS AND LICENSES NECESSARY FOR THE PROPER EXECUTION OF THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR INVOLVED.

1.04 DRAWINGS

A. THESE SPECIFICATIONS ARE ACCOMPANIED BY FLOOR PLANS AND DETAILS OF THE BUILDING ELECTRICAL SYSTEMS, AND WHAT IS CALLED FOR BY ONE SHALL BE AS BINDING AS CALLED FOR IN BOTH.
B. OBTAIN NECESSARY PERMITS, AND PAY PERMIT AND INSPECTION FEES.

1.05 EQUIPMENT MARKING AND PAINTING

A. SAFETY SWITCHES, PANELBOARDS, SWITCHBOARDS, CABINETS, ETC. SHALL BE PROVIDED WITH PERMANENTLY ATTACHED, ENGRAVED BAKELITE DESIGNATION PLATES TO INDICATE EQUIPMENT OR CIRCUIT CONTROLLED AS DETAILED ON SHEET E–1.

1.06 EQUIPMENT CONNECTIONS

A. STARTERS, CONTROLLERS, THERMOSTATS, FAN SWITCHES, INDICATING LIGHTS, ETC. AND CONTROL WIRING LESS THAN 120 VOLTS SHALL BE PROVIDED UNDER THE DIVISION PROVIDING THE RESPECTIVE MOTOR AND/OR EQUIPMENT UNLESS OTHERWISE INDICATED. ALL 120 VOLT WIRING SHALL BE PROVIDED UNDER DIVISION 16000 "ELECTRICAL".
B. POWER WIRING AND POWER CONNECTIONS TO ALL EQUIPMENT SHALL BE PROVIDED UNDER DIVISION 16000 "ELECTRICAL" UNLESS OTHERWISE INDICATED ON THE ELECTRICAL DRAWINGS.
C. WHEN SUBSTITUTED MOTORS AND/OR EQUIPMENT REQUIRE ELECTRICAL MODIFICATIONS TO SUPPORT SAID MOTORS AND/OR EQUIPMENT, THE COST OF THE ELECTRICAL MODIFICATIONS, ASSOCIATED WORK AND COORDINATION SHALL BE INCLUDED.
D. DETERMINE ELECTRICAL REQUIREMENTS OF OTHER DIVISIONS IN ORDER TO FULLY UNDERSTAND WIRING AND PROVIDE AS REQUIRED FOR COMPLETE AND SATISFACTORY OPERATION OF PROJECT. MAKE CONNECTIONS FOR OTHER DIVISIONS WHERE REQUIRED.

SECTION 16050 – MATERIALS AND METHODS

PART 1 – GENERAL

1.01 ELECTRICAL MATERIALS FURNISHED UNDER THESE SPECIFICATIONS SHALL BE NEW AND LISTED, AND APPROVED BY UNDERWRITERS' LABORATORIES AND SHALL BEAR THE UL LABEL WHERE LABELING SERVICE IS AVAILABLE.

1.02 PANELBOARDS, AND DISCONNECT SWITCHES SHALL BE MANUFACTURED BY THE SAME MANUFACTURER. WIRING DEVICES SHALL BE MANUFACTURED BY ONE MANUFACTURER.

PART 2 – PRODUCTS

2.01 REPLACE OR REPAIR DEFECTIVE EQUIPMENT AND MATERIALS, OR MATERIAL DAMAGED IN THE COURSE OF INSTALLATION OR TESTS.

PART 3 – EXECUTION

3.01 MATERIAL AND EQUIPMENT SHALL BE PROPERLY STORED AND PROTECTED UNTIL INSTALLED.

3.02 INSTALL MATERIALS IN A FIRST CLASS AND WORKMANLIKE MANNER AND RUN CONCEALED THROUGHOUT BUILDING, EXCEPT AS INDICATED.

SECTION 16111 – CONDUIT

PART 1 – GENERAL

1.01 CONDUIT SHALL BE RUN CONCEALED, EXCEPT CONDUIT MAY BE EXPOSED ABOVE JOISTS, IN ELECTRICAL ROOMS AND SPACES WITH EXPOSED CONSTRUCTION.

PART 2 – PRODUCTS

2.01 CONDUIT AND FITTINGS SHALL CONFORM TO THE FOLLOWING:
A. INTERMEDIATE METAL CONDUIT – UL – 1242
B. ELECTRICAL METALLIC TUBING (EMT) – ANSI C80.3

2.02 MINIMUM SIZE CONDUIT SHALL BE 3/4" WITH LARGER SIZES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE FOR NUMBER OF WIRES CONTAINED THEREIN.

2.03 CONDUIT AND TUBING SHALL BE HOT DIPPED GALVANIZED EXCEPT AS HEREINBEFORE SPECIFIED.

2.04 INTERMEDIATE METAL CONDUIT SHALL BE PERMITTED WHERE ALLOWED IN ARTICLE 345 OF THE NATIONAL ELECTRICAL CODE.

2.05 PROVIDE O.Z. TYPE "AX" EXPANSION FITTINGS WHERE CONDUITS CROSS EXPANSION JOINTS.

2.06 PROVIDE O.Z. TYPE "M" CABLE SUPPORTS AS REQUIRED BY ARTICLE 300–19 NEC.

2.07 CONDUIT TERMINATIONS ONE AND ONE–QUARTER INCH AND LARGER AND CONDUIT STUBS SHALL HAVE O.Z. TYPE "B" INSULATING BUSHINGS. RIGID CONDUIT TERMINATIONS ONE INCH AND SMALLER SHALL HAVE O.Z. TYPE "A" INSULATING BUSHINGS.

PART 3 – EXECUTION

3.01 CONDUIT CONCEALED IN WALLS AND ABOVE CEILING SHALL BE THIN–WALL TYPE ELECTRICAL METALLIC TUBING.

3.02 CONDUIT SHALL BE RUN CONTINUOUS BETWEEN OUTLETS WITH A MINIMUM NUMBER OF BENDS.

SECTION 16120 – WIRE AND CABLE

PART 1 – GENERAL

1.01 FEEDER AND BRANCH CIRCUIT WIRE SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ADOPTED EDITION OF THE NEC AND SHALL MEET RELEVANT ASTM SPECIFICATIONS.

PART 2 – PRODUCTS

2.01 WIRE SHALL BE COPPER 600 VOLT INSULATION, MINIMUM SIZE NO. 12, TYPE "THWN/THHN" (WITH AMPACITIES BASED ON TYPE "THWN") OR "XHHW" AS APPLICABLE UNLESS OTHERWISE INDICATED ON DRAWINGS. TERMINATIONS AND CONNECTIONS SHALL BE APPROVED FOR THE TYPE/SIZE OF CONDUCTOR BEING USED.

2.03 WIRES NO. 10 AND 12 SHALL BE CONNECTED WITH COIL SPRINGS INSERT "WIRE–NUT" OR "WING–NUT" CONNECTORS. CONNECTORS SHALL BE RATED 600 VOLTS. WIRES NO. 8 AND LARGER SHALL BE JOINED OR TERMINATED WITH PRESSURE TYPE COPPER CONNECTORS.

PART 3 – EXECUTION

3.01 ALL WIRING SHALL BE WIRE INSTALLED IN CONDUIT.

3.02 WIRE SHALL BE COLOR CODED TO MATCH EXISTING COLOR CODING, AND EACH CIRCUIT CONDUCTOR OF THE SAME COLOR SHALL BE CONNECTED TO THE SAME UNGROUNDED FEEDER CONDUCTOR THROUGHOUT THE INSTALLATION.

120/208 VOLT SYSTEM

PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUND	GREEN

SECTION 16130 – OUTLET BOXES

PART 1 – GENERAL

1.01 FIXTURE OUTLETS, RECEPTACLES, SWITCHES, DEVICES, ETC., REQUIRING OUTLET BOXES SHALL HAVE STEEL OUTLET BOXES CONSTRUCTED AS REQUIRED BY NATIONAL ELECTRICAL CODE AND INSTALLED AS INDICATED.

PART 2 – PRODUCTS

2.01 OUTLET BOXES SHALL BE HOT DIPPED GALVANIZED STEEL TYPE WITH STANDARD KNOCK–OUTS AS REQUIRED FOR CONDUIT TERMINATION. MINIMUM SIZE OF OUTLET BOX SHALL BE FOUR INCHES SQUARE, ONE AND ONE–QUARTER INCHES DEEP, AND SHALL BE INCREASED IN DIMENSIONS TO ACCOMMODATE CONDUCTORS AND DEVICES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE, AND AS INDICATED. OUTLET BOXES FOR EXPOSED TILE AND BLOCK SHALL BE PROVIDED WITH SQUARE CORNERED TILE RING, SIZE AS REQUIRED.

2.02 SHALLOW OUTLET BOXES MAY BE EMPLOYED WHERE CONSTRUCTION PROHIBITS USE OF FOUR INCHES SQUARE, ONE AND ONE–QUARTER INCHES DEEP BOX SPECIFIED ABOVE. CONTRACTOR SHALL CONFIRM SUCH INSTALLATION LOCATIONS WITH OWNERS CONSTRUCTION ADMINISTRATOR PRIOR TO ROUGH IN.

2.03 JUNCTION AND PULL BOXES SHALL BE INSTALLED WHERE INDICATED OR NECESSARY FOR INSTALLATION OF THE ELECTRICAL SYSTEM. JUNCTION OR PULL BOXES NOT OVER 100 CUBIC INCHES IN VOLUME SHALL BE STANDARD OUTLET BOXES: JUNCTION BOXES OVER 100 CUBIC INCHES IN VOLUME SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. JUNCTION BOXES MUST HAVE COVERS AND BE ACCESSIBLE AFTER COMPLETION OF CONSTRUCTION.

PART 3 – EXECUTION

3.01 OUTLET BOXES OCCURRING IN WET AREAS SHALL BE CAST AND PROVIDED WITH GASKETS BETWEEN BOX AND WATERPROOF COVER.

3.02 CEILING AND BRACKET OUTLETS SHALL BE BOXES SUITABLY SUPPORTED BY HEADERS AND THREE–EIGHTHS INCH FIXTURE STUD FOR SUPPORTING FIXTURES AS REQUIRED. IN AREAS OF EXPOSED STEEL BEAMS FIXTURE SHALL BE SUPPORTED BY STEEL CHANNEL AS REQUIRED. FIXTURES WEIGHING OVER 20 POUNDS SHALL BE SUPPORTED INDEPENDENTLY OF BOX.

3.03 OUTLET BOXES IN FINISHED AREAS SHALL BE FLUSH MOUNTED WITH RAISED PLASTER RINGS AND SHALL BE FLUSH WITH FINISH WALL LINE. SURFACE OUTLETS REQUIRING DEVICE PLATES SHALL BE PROVIDED WITH RAISED COVERS SERVING BOTH PURPOSES.

3.04 CONDUITS SHALL BE SUPPORTED AT INTERVALS NOT GREATER THAN TEN FEET AND WITHIN THREE FEET OF ANY BEND AND EVERY OUTLET OR JUNCTION BOX, BOTH HORIZONTAL AND VERTICAL RUNS AND AS SPECIFIED BY THE NEC.

3.05 CONDUIT SUPPORTS SHALL BE APPROVED WALL BRACKETS, TRAPEZE, STRAP HANGER, OR PIPE STRAPS SECURED TO HOLLOW MASONRY WITH TOGGLE BOLTS, TO BRICK AND CONCRETE WITH EXPANSION BOLTS, TO METAL SURFACES WITH MACHINE SCREWS AND TO WOOD WITH WOOD SCREWS.

3.06 CONDUITS AND CABLES PASSING THROUGH FIRE RATED WALLS SHALL OR PROVIDED WITH UL LISTED ASSEMBLY FIRE SEALS TO MAINTAIN "UL" CLASSIFIED FIRE RATING.

3.07 WHERE SEVERAL FEEDERS PASS THROUGH A COMMON PULL BOX OR JUNCTION BOX, THE FEEDERS SHALL BE TAGGED TO INDICATE CLEARLY THEIR ELECTRICAL CHARACTERISTICS, CIRCUIT NUMBER, AND PANEL DESIGNATION. MARK SAME INFORMATION ON COVER OF THE BOX.

SECTION 16140 – WIRING DEVICES

PART 1 – GENERAL

1.01 FURNISH AND INSTALL WIRING DEVICES AND SPECIAL DEVICES AS INDICATED ON DRAWINGS.

PART 2 – PRODUCTS

2.01 DEVICES SHALL BE AS INDICATED ON DRAWINGS.

2.02 DEVICE PLATES SHALL BE SATIN FINISHED STAINLESS STEEL FOR DEVICE INDICATED.

2.03 SPECIAL DEVICES, TIME SWITCHES, ETC., SHALL BE AS NOTED ON DRAWINGS.

PART 3 – EXECUTION

3.01 LOCATION OF WIRING DEVICES SHALL BE AS INDICATED ON DRAWINGS OR AS DIRECTED IN FIELD WHERE SPECIFIC REQUIREMENT FOR LOCATION IS REQUIRED. CONTRACTOR SHALL VERIFY LOCATION OF SPECIAL DEVICES PRIOR TO ROUGHING IN.

3.02 IDENTIFY EACH RECEPTACLE WITH PANELBOARD AND CIRCUIT NUMBER FROM WHICH IT IS FED. USE HOT STAMPED MACHINE PRINTING WITH BLACK FILLED LETTERING ON FACE OF PLATE. PROVIDE WIRE MARKERS INSIDE OUTLET BOXES ON ALL WIRING.

SECTION 16160 – PANELBOARDS

PART 1 – GENERAL

1.01 PANELBOARDS SHALL BE CIRCUIT BREAKER TYPE CONFORMING TO THE LATEST NEMA STANDARD AND SHALL BEAR THE UNDERWRITER'S LABORATORY LABEL.

PART 2 – PRODUCTS

2.01 BREAKERS SHALL BE BOLTED TO THE BUS, MAIN BUS SHALL BE COPPER. SEPARATE GROUND AND NEUTRAL BUSSES SHALL BE PROVIDED.

2.02 PANELBOARDS SHALL BE MANUFACTURED BY SQUARE–D OR GENERAL ELECTRIC.

PART 3 – EXECUTION

3.01 CIRCUIT BREAKER ARRANGEMENT SHALL BE AS DETAILED ON THE PLANS. PROVIDE NEW TYPED PANEL SCHEDULES IN PLASTIC SLEEVE ATTACHED TO INSIDE OF PANEL DOOR FOR EACH PANEL THAT IS SCHEDULED ON THE PLANS. FIELD VERIFY ACCURACY OF ALL EXISTING CIRCUITS INDICATED IN THE PANELBOARD SCHEDULES.

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ELECTRICAL SPECIFICATIONS

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FLOOD MITIGATION

ELECTRICAL SPECIFICATIONS

SECTION 16231 – PACKAGED ENGINE GENERATOR

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES REQUIREMENTS FOR THE EXISTING PACKAGED ENGINE–GENERATOR SETS FOR EMERGENCY POWER SUPPLY WITH THE FOLLOWING FEATURES:
1. GAS ENGINE.
2. UNIT–MOUNTED COOLING SYSTEM.
3. REMOTE–MOUNTED COOLING SYSTEM.
4. OUTDOOR ENCLOSURE

PART 2 – PRODUCTS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. CATERPILLAR; ENGINE DIV.
2. GENERAC POWER SYSTEMS, INC.
3. KOHLER CO.; GENERATION DIVISION

2.2 CONTROL AND MONITORING

A. AUTOMATIC STARTING SYSTEM SEQUENCE OF OPERATION: WHEN MODE–SELECTOR SWITCH ON THE CONTROL AND MONITORING PANEL IS IN THE AUTOMATIC POSITION, REMOTE–CONTROL CONTACTS IN ONE OR MORE SEPARATE AUTOMATIC TRANSFER SWITCHES INITIATE STARTING AND STOPPING OF GENERATOR SET. WHEN MODE–SELECTOR SWITCH IS SWITCHED TO THE ON POSITION, GENERATOR SET STARTS. THE OFF POSITION OF SAME SWITCH INITIATES GENERATOR–SET SHUTDOWN. WHEN GENERATOR SET IS RUNNING, SPECIFIED SYSTEM OR EQUIPMENT FAILURES OR DERANGEMENTS AUTOMATICALLY SHUT DOWN GENERATOR SET AND INITIATE ALARMS.

B. MANUAL STARTING SYSTEM SEQUENCE OF OPERATION: SWITCHING ON–OFF SWITCH ON THE GENERATOR CONTROL PANEL TO THE ON POSITION STARTS GENERATOR SET. THE OFF POSITION OF SAME SWITCH INITIATES GENERATOR–SET SHUTDOWN. WHEN GENERATOR SET IS RUNNING, SPECIFIED SYSTEM OR EQUIPMENT FAILURES OR DERANGEMENTS AUTOMATICALLY SHUT DOWN GENERATOR SET AND INITIATE ALARMS.

C. CONFIGURATION: OPERATING AND SAFETY INDICATIONS, PROTECTIVE DEVICES, BASIC SYSTEM CONTROLS, AND ENGINE GAGES SHALL BE GROUPED IN A COMMON CONTROL AND MONITORING PANEL MOUNTED ON THE GENERATOR SET. MOUNTING METHOD SHALL ISOLATE THE CONTROL PANEL FROM GENERATOR–SET VIBRATION.

D. INDICATING AND PROTECTIVE DEVICES AND CONTROLS: AS REQUIRED BY NFPA 110 FOR LEVEL 1 SYSTEM, AND THE FOLLOWING:
1. AC VOLTMETER.
2. AC AMMETER.
3. AC FREQUENCY METER.
4. DC VOLTMETER (ALTERNATOR BATTERY CHARGING).
5. ENGINE–COOLANT TEMPERATURE GAGE.
6. ENGINE LUBRICATING–OIL PRESSURE GAGE.
7. RUNNING–TIME METER.
8. AMMETER–VOLTMETER, PHASE–SELECTOR SWITCH(ES).
9. GENERATOR–VOLTAGE ADJUSTING RHEOSTAT.
10. FUEL TANK DERANGEMENT ALARM.
11. FUEL TANK HIGH–LEVEL SHUTDOWN OF FUEL SUPPLY ALARM.
12. GENERATOR OVERLOAD.

E. SUPPORTING ITEMS: INCLUDE SENSORS, TRANSDUCERS, TERMINALS, RELAYS, AND OTHER DEVICES AND INCLUDE WIRING REQUIRED TO SUPPORT SPECIFIED ITEMS. LOCATE SENSORS AND OTHER SUPPORTING ITEMS ON ENGINE OR GENERATOR, UNLESS OTHERWISE INDICATED.

F. COMMON REMOTE AUDIBLE ALARM: COMPLY WITH NFPA 110 REQUIREMENTS FOR LEVEL 1 SYSTEMS. INCLUDE NECESSARY CONTACTS AND TERMINALS IN CONTROL AND MONITORING PANEL.\
1. OVERCRANK SHUTDOWN.
2. COOLANT LOW–TEMPERATURE ALARM.
3. CONTROL SWITCH NOT IN AUTO POSITION.
4. BATTERY–CHARGER MALFUNCTION ALARM.
5. BATTERY LOW–VOLTAGE ALARM.

G. REMOTE ALARM ANNUNCIATOR: COMPLY WITH NFPA 99. AN LED LABELED WITH PROPER ALARM CONDITIONS SHALL IDENTIFY EACH ALARM EVENT AND A COMMON AUDIBLE SIGNAL SHALL SOUND FOR EACH ALARM CONDITION. SILENCING SWITCH IN FACE OF PANEL SHALL SILENCE SIGNAL WITHOUT ALTERING VISUAL INDICATION. CONNECT SO THAT AFTER AN ALARM IS SILENCED, CLEARING OF INITIATING CONDITION WILL REACTIVATE ALARM UNTIL SILENCING SWITCH IS RESET. CABINET AND FACEPLATE ARE SURFACE– OR FLUSH–MOUNTING TYPE TO SUIT MOUNTING CONDITIONS INDICATED.

PART 3 – EXECUTION

3.1 INSTALLATION

A. CONNECT WIRING ACCORDING TO SECTION 16120

3.2 FIELD QUALITY CONTROL

A. PERFORM TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.
1. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY–AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS, AND TO ASSIST IN TESTING.

B. TESTS AND INSPECTIONS:
1. PERFORM TESTS RECOMMENDED BY MANUFACTURER AND EACH ELECTRICAL TEST AND VISUAL AND MECHANICAL INSPECTION FOR "AC GENERATORS AND FOR EMERGENCY SYSTEMS" SPECIFIED IN NETA ACCEPTANCE TESTING SPECIFICATION. CERTIFY COMPLIANCE WITH TEST PARAMETERS.
2. NFPA 110 ACCEPTANCE TESTS: PERFORM TESTS REQUIRED BY NFPA 110.

C. COORDINATE TESTS WITH TESTS FOR TRANSFER SWITCHES AND RUN THEM CONCURRENTLY.

D. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.

E. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.

F. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.

G. RETEST: CORRECT DEFICIENCIES IDENTIFIED BY TESTS AND OBSERVATIONS AND RETEST UNTIL SPECIFIED REQUIREMENTS ARE MET.

H. REPORT RESULTS OF TESTS AND INSPECTIONS IN WRITING. RECORD ADJUSTABLE RELAY SETTINGS AND MEASURED INSULATION RESISTANCES, TIME DELAYS, AND OTHER VALUES AND OBSERVATIONS. ATTACH A LABEL OR TAG TO EACH TESTED COMPONENT INDICATING SATISFACTORY COMPLETION OF TESTS.

SECTION 16415 – TRANSFER SWITCH

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES AUTOMATIC TRANSFER SWITCHES RATED 600 V AND LESS.

1.2 SUBMITTALS

A. PRODUCT DATA: INCLUDE RATED CAPACITIES, WEIGHTS, OPERATING CHARACTERISTICS, FURNISHED SPECIALTIES, AND ACCESSORIES.

B. SHOP DRAWINGS: DIMENSIONED PLANS, ELEVATIONS, SECTIONS, AND DETAILS SHOWING MINIMUM CLEARANCES, CONDUCTOR ENTRY PROVISIONS, GUTTER SPACE, INSTALLED FEATURES AND DEVICES, AND MATERIAL LISTS FOR EACH SWITCH SPECIFIED.

C. FIELD QUALITY–CONTROL TEST REPORTS.

D. OPERATION AND MAINTENANCE DATA.

1.3 QUALITY ASSURANCE

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.

B. COMPLY WITH NEMA ICS 1.

C. COMPLY WITH NFPA 70.

D. COMPLY WITH NFPA 99.

E. COMPLY WITH NFPA 110.

F. COMPLY WITH UL 1008 UNLESS REQUIREMENTS OF THESE SPECIFICATIONS ARE STRICTER.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. CATERPILLAR; ENGINE DIV.
2. GENERAC POWER SYSTEMS, INC.
3. KOHLER CO.; GENERATOR DIVISION

2.2 GENERAL TRANSFER–SWITCH PRODUCT REQUIREMENTS

A. INDICATED CURRENT RATINGS: APPLY AS DEFINED IN UL 1008 FOR CONTINUOUS LOADING AND TOTAL SYSTEM TRANSFER, INCLUDING TUNGSTEN FILAMENT LAMP LOADS NOT EXCEEDING 30 PERCENT OF SWITCH AMPERE RATING, UNLESS OTHERWISE INDICATED.

B. TESTED FAULT–CURRENT CLOSING AND WITHSTAND RATINGS: ADEQUATE FOR DUTY IMPOSED BY PROTECTIVE DEVICES AT INSTALLATION LOCATIONS IN PROJECT UNDER THE FAULT CONDITIONS INDICATED, BASED ON TESTING ACCORDING TO UL 1008.
1. WHERE TRANSFER SWITCH INCLUDES INTERNAL FAULT–CURRENT PROTECTION, RATING OF SWITCH AND TRIP UNIT COMBINATION SHALL EXCEED INDICATED FAULT–CURRENT VALUE AT INSTALLATION LOCATION.

C. SOLID–STATE CONTROLS: REPETITIVE ACCURACY OF ALL SETTINGS SHALL BE PLUS OR MINUS 2 PERCENT OR BETTER OVER AN OPERATING TEMPERATURE RANGE OF MINUS 20 TO PLUS 70 DEG C.

D. RESISTANCE TO DAMAGE BY VOLTAGE TRANSIENTS: COMPONENTS SHALL MEET OR EXCEED VOLTAGE–SURGE WITHSTAND CAPABILITY REQUIREMENTS WHEN TESTED ACCORDING TO IEEE C62.41. COMPONENTS SHALL MEET OR EXCEED VOLTAGE–IMPULSE WITHSTAND TEST OF NEMA ICS 1.

E. ELECTRICAL OPERATION: ACCOMPLISH BY A NONFUSED, MOMENTARILY ENERGIZED SOLENOID OR ELECTRIC–MOTOR–OPERATED MECHANISM, MECHANICALLY AND ELECTRICALLY INTERLOCKED IN BOTH DIRECTIONS.

F. SWITCH CHARACTERISTICS: DESIGNED FOR CONTINUOUS–DUTY REPETITIVE RANSFER OF FULL–RATED CURRENT BETWEEN ACTIVE POWER SOURCES.
1. LIMITATION: SWITCHES USING MOLDED–CASE SWITCHES OR CIRCUIT BREAKERS OR INSULATED–CASE CIRCUIT–BREAKER COMPONENTS ARE NOT ACCEPTABLE.
2. SWITCH ACTION: DOUBLE THROW; MECHANICALLY HELD IN BOTH DIRECTIONS.
3. CONTACTS: SILVER COMPOSITION OR SILVER ALLOY FOR LOAD–CURRENT SWITCHING.

G. NEUTRAL TERMINAL: SOLID AND FULLY RATED, UNLESS OTHERWISE INDICATED.

H. ENCLOSURES: GENERAL–PURPOSE NEMA 250, TYPE 1, COMPLYING WITH NEMA ICS 6 AND UL 508, UNLESS OTHERWISE INDICATED.

2.3 AUTOMATIC TRANSFER SWITCHES

A. COMPLY WITH LEVEL 1 EQUIPMENT ACCORDING TO NFPA 110.

B. SWITCHING ARRANGEMENT: DOUBLE–THROW TYPE, INCAPABLE OF PAUSES OR INTERMEDIATE POSITION STOPS DURING NORMAL FUNCTIONING, UNLESS OTHERWISE INDICATED.

C. AUTOMATIC TRANSFER–SWITCH FEATURES:
1. UNDERVOLTAGE SENSING FOR EACH PHASE OF NORMAL SOURCE: SENSE LOW PHASE–TO–GROUND VOLTAGE ON EACH PHASE. PICKUP VOLTAGE SHALL BE ADJUSTABLE FROM 85 TO 100 PERCENT OF NOMINAL, AND DROPOUT VOLTAGE IS ADJUSTABLE FROM 75 TO 98 PERCENT OF PICKUP VALUE. FACTORY SET FOR PICKUP AT 90 PERCENT AND DROPOUT AT 85 PERCENT.
2. ADJUSTABLE TIME DELAY: FOR OVERRIDE OF NORMAL–SOURCE VOLTAGE SENSING TO DELAY TRANSFER AND ENGINE START SIGNALS. ADJUSTABLE FROM ZERO TO SIX SECONDS, AND FACTORY SET FOR ONE SECOND.
3. TIME DELAY FOR RETRANSFER TO NORMAL SOURCE: ADJUSTABLE FROM 0 TO 30 MINUTES, AND FACTORY SET FOR 10 MINUTES TO AUTOMATICALLY DEFEAT DELAY ON LOSS OF VOLTAGE OR SUSTAINED UNDERVOLTAGE OF EMERGENCY SOURCE, PROVIDED NORMAL SUPPLY HAS BEEN RESTORED.
4. TEST SWITCH: SIMULATE NORMAL–SOURCE FAILURE.
5. SWITCH–POSITION PILOT LIGHTS: INDICATE SOURCE TO WHICH LOAD IS CONNECTED.
6. SOURCE–AVAILABLE INDICATING LIGHTS: SUPERVISE SOURCES VIA TRANSFER–SWITCH NORMAL– AND EMERGENCY–SOURCE SENSING CIRCUITS.
   a. NORMAL POWER SUPERVISION: GREEN LIGHT WITH NAMEPLATE ENGRAVED "NORMAL SOURCE AVAILABLE."
   b. EMERGENCY POWER SUPERVISION: RED LIGHT WITH NAMEPLATE ENGRAVED "EMERGENCY SOURCE AVAILABLE."
7. UNASSIGNED AUXILIARY CONTACTS: TWO NORMALLY OPEN, SINGLE–POLE, DOUBLE–THROW CONTACTS FOR EACH SWITCH POSITION, RATED 10 A AT 240–V AC.
8. ENGINE STARTING CONTACTS: ONE ISOLATED AND NORMALLY CLOSED, AND ONE ISOLATED ND NORMALLY OPEN; RATED 10 A AT 32–V DC MINIMUM.
9. ENGINE SHUTDOWN CONTACTS: TIME DELAY ADJUSTABLE FROM ZERO TO FIVE MINUTES, AND FACTORY SET FOR FIVE MINUTES. CONTACTS SHALL INITIATE SHUTDOWN AT REMOTE ENGINE–GENERATOR CONTROLS AFTER RETRANSFER OF LOAD TO NORMAL SOURCE.
10. ENGINE–GENERATOR EXERCISER: SOLID–STATE, PROGRAMMABLE–TIME SWITCH STARTS ENGINE GENERATOR AND TRANSFERS LOAD TO IT FROM NORMAL SOURCE FOR A PRESET TIME, THEN RETRANSFERS AND SHUTS DOWN ENGINE AFTER A PRESET COOL–DOWN PERIOD. INITIATES EXERCISE CYCLE AT PRESET INTERVALS ADJUSTABLE FROM 7 TO 30 DAYS. RUNNING PERIODS ARE ADJUSTABLE FROM 10 TO 30 MINUTES. FACTORY SETTINGS ARE FOR 7–DAY EXERCISE CYCLE, 20–MINUTE RUNNING PERIOD, AND 5–MINUTE COOL–DOWN PERIOD. EXERCISER FEATURES INCLUDE THE FOLLOWING:
    a. EXERCISER TRANSFER SELECTOR SWITCH: PERMITS SELECTION OF EXERCISE WITH AND WITHOUT LOAD TRANSFER.
    b. PUSH–BUTTON PROGRAMMING CONTROL WITH DIGITAL DISPLAY OF SETTINGS.
    c. INTEGRAL BATTERY OPERATION OF TIME SWITCH WHEN NORMAL CONTROL POWER IS NOT AVAILABLE.

2.4 SOURCE QUALITY CONTROL

A. FACTORY TEST AND INSPECT COMPONENTS, ASSEMBLED SWITCHES, AND ASSOCIATED EQUIPMENT. ENSURE PROPER OPERATION. CHECK TRANSFER TIME AND VOLTAGE, FREQUENCY, AND TIME–DELAY SETTINGS FOR COMPLIANCE WITH SPECIFIED REQUIREMENTS. PERFORM DIELECTRIC STRENGTH TEST COMPLYING WITH NEMA ICS 1.

PART 3 – EXECUTION

3.1 INSTALLATION

A. SET FIELD–ADJUSTABLE INTERVALS AND DELAYS, RELAYS, AND ENGINE EXERCISER CLOCK.

3.2 CONNECTIONS

A. GROUND EQUIPMENT ACCORDING TO NEC

B. CONNECT WIRING ACCORDING TO SECTION 16120 – WIRE AND CABLE.

3.3 FIELD QUALITY CONTROL

A. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY–AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT, TEST, AND ADJUST COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS. REPORT RESULTS IN WRITING.

B. PERFORM TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.
1. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY–AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATION, INCLUDING CONNECTIONS, AND TO ASSIST IN TESTING.
2. AFTER INSTALLING EQUIPMENT AND AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.
3. PERFORM EACH VISUAL AND MECHANICAL INSPECTION AND ELECTRICAL TEST STATED IN NETA ACCEPTANCE TESTING SPECIFICATION. CERTIFY COMPLIANCE WITH TEST PARAMETERS.
4. MEASURE INSULATION RESISTANCE PHASE–TO–PHASE AND PHASE–TO–GROUND WITH INSULATION–RESISTANCE TESTER. USE TEST VOLTAGES AND PROCEDURE RECOMMENDED BY MANUFACTURER. COMPLY WITH MANUFACTURER'S SPECIFIED MINIMUM RESISTANCE.
   a. CHECK FOR ELECTRICAL CONTINUITY OF CIRCUITS AND FOR SHORT CIRCUITS.
   b. INSPECT FOR PHYSICAL DAMAGE, PROPER INSTALLATION AND CONNECTION, AND INTEGRITY OF BARRIERS, COVERS, AND SAFETY FEATURES.
   c. VERIFY THAT MANUAL TRANSFER WARNINGS ARE PROPERLY PLACED.
   d. PERFORM MANUAL TRANSFER OPERATION.
5. AFTER ENERGIZING CIRCUITS, DEMONSTRATE INTERLOCKING SEQUENCE AND OPERATIONAL FUNCTION FOR EACH SWITCH AT LEAST THREE TIMES.
   a. SIMULATE POWER FAILURES OF NORMAL SOURCE TO AUTOMATIC TRANSFER SWITCHES AND OF EMERGENCY SOURCE WITH NORMAL SOURCE AVAILABLE.
   b. SIMULATE LOSS OF PHASE–TO–GROUND VOLTAGE FOR EACH PHASE OF NORMAL SOURCE.
   c. VERIFY TIME–DELAY SETTINGS.
   d. VERIFY PICKUP AND DROPOUT VOLTAGES BY DATA READOUT OR INSPECTION OF CONTROL SETTINGS.
   e. PERFORM CONTACT–RESISTANCE TEST ACROSS MAIN CONTACTS AND CORRECT VALUES EXCEEDING 500 MICROHMS AND VALUES FOR 1 POLE DEVIATING BY MORE THAN 50 PERCENT FROM OTHER POLES.
   f. VERIFY PROPER SEQUENCE AND CORRECT TIMING OF AUTOMATIC ENGINE STARTING, TRANSFER TIME DELAY, RETRANSFER TIME DELAY ON RESTORATION OF NORMAL POWER, AND ENGINE COOL–DOWN AND SHUTDOWN.
6. GROUND–FAULT TESTS: COORDINATE WITH TESTING OF GROUND–FAULT PROTECTIVE DEVICES FOR POWER DELIVERY FROM BOTH SOURCES.
   a. VERIFY GROUNDING CONNECTIONS AND LOCATIONS AND RATINGS OF SENSORS.

C. COORDINATE TESTS WITH TESTS OF GENERATOR AND RUN THEM CONCURRENTLY.

D. REPORT RESULTS OF TESTS AND INSPECTIONS IN WRITING. RECORD ADJUSTABLE RELAY SETTINGS AND MEASURED INSULATION AND CONTACT RESISTANCES AND TIME DELAYS. ATTACH A LABEL OR TAG TO EACH TESTED COMPONENT INDICATING SATISFACTORY COMPLETION OF TESTS.

E. REMOVE AND REPLACE MALFUNCTIONING UNITS AND RETEST AS SPECIFIED ABOVE.

3.4 DEMONSTRATION

A. ENGAGE A FACTORY–AUTHORIZED SERVICE REPRESENTATIVE TO TRAIN OWNER'S MAINTENANCE PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN TRANSFER SWITCHES AND RELATED EQUIPMENT.

B. COORDINATE THIS TRAINING WITH THAT FOR GENERATOR EQUIPMENT.

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